XK-R100RDS

SERVICE MANUAL

AEP Model
UK Model

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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Model Name Using Similar Mechanism	XR-C510RDS
Tape Transport Mechanism Type	MG-50DX-39

SPECIFICATIONS

Cassette player section

Tape track	4-track 2-channel stereo
Wow and flutter	0.08 % (WRMS)
Frequency response	25 – 20,000 Hz
Signal-to- noise ratio	

Cassette type	Dolby B NR	Dolby NR off
TYPE II, IV	67 dB	61 dB
TYPE I	64 dB	58 dB

Tuner section

FM

Tuning range	87.5 – 108.0 MHz
Antenna terminal	External antenna connector
Intermediate frequency	10.7 MHz
Usable sensitivity	8 dBf
Selectivity	75 dB at 400 kHz
Signal-to-noise ratio	65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz	0.5 % (stereo), 0.3 % (mono)
Separation	35 dB at 1 kHz
Frequency response	30 – 15,000 Hz
Capture ratio	2 dB

MW/LW

Tuning range	MW: 531 – 1,602 kHz LW: 153 – 281 kHz
Antenna terminal	External antenna connector
Intermediate frequency	10.71 MHz/450 kHz
Sensitivity	MW: 30 μV LW: 50 μV

Pre-amplifier section

Line outs	FRONT/REAR
Line out impedance	200 ohm
Bus input impedance	10 kohm
Distortion	0.005 % (1 kHz Bus Input)
Line out level	4 V rms

General

Output lead	Power antenna relay control lead Power amplifier control lead
Tone controls	Bass ±8 dB at 100 Hz Treble ±8 dB at 10 kHz
Power requirements	12 V DC car battery (negative ground)
Dimensions	Approx. 186 × 57 × 167 mm (w/h/d)
Mounting dimensions	Approx. 182 × 53 × 149 mm (w/h/d)
Mass	Approx. 1.1 kg
Supplied accessories	Power connecting cord (1) Mounting hardware (1 set) Front panel case (1)

Design and specifications are subject to change without notice.

TUNER/CASSETTE PRE-AMPLIFIER

SONY®

TABLE OF CONTENTS

Section	*Title*	*Page*
Specifications		1
Servicing Note		2
1.	**GENERAL**	
	Location of Controls	3
	Installation	4
	Connections	5
2.	**DISASSEMBLY**	7
3.	**MECHANICAL ADJUSTMENTS**	8
4.	**ELECTRICAL ADJUSTMENTS**	8
5.	**DIAGRAMS**	
5-1.	Block Diagram	13
5-2.	IC Pin Function Description	19
5-3.	Main Section Printed Wiring Boards	23
5-4.	Main Section Schematic Diagram	27
5-5.	Key Section Printed Wiring Board	31
5-6.	Key Section Schematic Diagram	33
6.	**EXPLODED VIEWS**	35
7.	**ELECTRICAL PARTS LIST**	38

SERVICING NOTE

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 ℃ during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

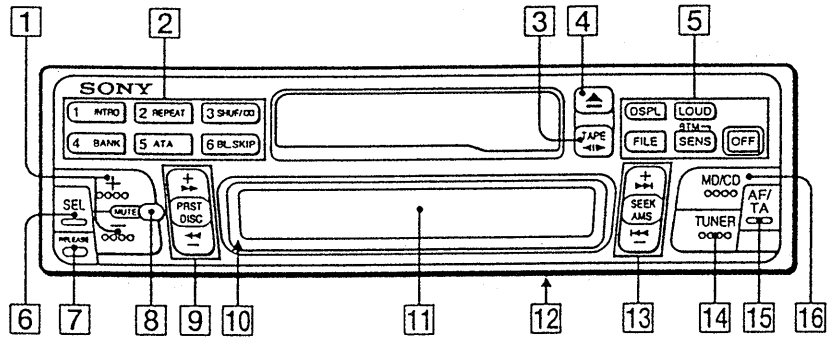
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

This section is extracted from instruction manual.

SECTION 1
GENERAL

Location of Controls



Refer to the pages in ● for details.

1 (volume/bass/treble/balance/fader control) button ❻⓭⓱⓲

2 During radio reception:
Preset number buttons ❾

During tape/CD/MD playback:

(1 INTRO) INTRO button ❼⓰⓱

(2 REPEAT) REPEAT button ❽⓰

(3 SHUF/DD) SHUF/DD (Dolby B NR) button ❼⓲⓱

(4 BANK) BANK button ⓳

(5 ATA) ATA (Automatic Tuner Activation) button ❽⓲

(6 BL.SKIP) BL.SKIP button ❽

During CD/MD playback:

Direct disc selection button ⓯

3 TAPE/◄I► (playback/transport direction change) button ❼

4 ⏏ (eject) button ❼⓭

5 (DSPL) (display mode change/time set) button ❻⓮⓯⓲

(BTM SENS) (Sensitivity adjust/Best Tuning Memory Function) button ❽❾⓫⓯

(OFF) button ❺❻❼⓭

(LOUD) (loudness) button ⓮

(FILE) (custom file mode select • set) button ⓬⓱⓲⓳

6 SEL (control mode select) button ❻⓬⓭⓮⓲⓳

7 RELEASE (front panel release) button ❺⓴

8 MUTE button ⓭

9 PRST (preset)/DISC button ❼❾⓫⓯

10 Reset button (located on the front side of the unit hidden by the front panel) ❺

11 Display window

12 POWER SELECT switch (located on the bottom of the unit)
See "POWER SELECT Switch" in the Installation/Connections manual.

13 SEEK/AMS button ❼❽⓯

14 TUNER (radio on/band select) button ❼❽❾⓫

15 AF/TA (alternative frequency/traffic announcement) button ⓫⓬

16 MD/CD (disc play • MD/CD changer select) button ❼⓮⓯⓲

Installation

Precautions

- Do not tamper with the four holes on the upper surface of the unit. They are for tuner adjustments to be done only by service technicians.
- Choose the installation location carefully so that the unit will not hamper the driver during driving.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.

Mounting angle adjustment

Adjust the mounting angle to less than 20°.

Installation

Précautions

- Ne pas toucher les quatre orifices sur le panneau supérieur de l'appareil. Ils servent aux réglages du tuner qui ne doivent être effectués que par un technicien.
- Choisir soigneusement l'emplacement de l'installation, pour que l'appareil ne gêne pas la conduite.
- Eviter d'installer l'appareil dans un endroit exposé à des températures élevées, comme en plein soleil ou à proximité d'une bouche d'air chaud, ou à de la poussière, saleté ou vibrations violentes.
- Pour garantir un montage sûr, n'utiliser que le matériel fourni.

Réglage de l'angle de montage

Ajuster l'inclinaison à un angle inférieur à 20°.

Installation

Vorsichtsmaßnahmen

- Nehmen Sie an den vier Öffnungen an der Oberseite des Geräts keine Einstellungen vor. Diese Öffnungen dienen dem Tuner-Abgleich; der Abgleich darf nur von einem Fachmann vorgenommen werden.
- Wählen Sie den Einbauort sorgfältig so aus, daß das Gerät die Bedienung des Fahrzeugs nicht behindert.
- Bauen Sie das Gerät so ein, daß es keinen hohen Temperaturen (keinem direkten Sonnenlicht, keiner Warmluft von der Heizung), keinem Staub, keinem Schmutz und keinen starken Vibrationen ausgesetzt ist.
- Für eine sichere Befestigung verwenden Sie stets nur die mitgelieferten Montageteile.

Hinweis zum Montagewinkel

Das Gerät sollte in einem Winkel von weniger als 20° montiert werden.

Installazione

Precauzioni

- Non interferire con i quattro fori sulla superficie superiore dell'apparecchio. Servono per regolazioni del sintonizzatore che devono essere eseguite solo da tecnici per la manutenzione.
- Scegliere con attenzione il luogo di montaggio in modo che l'apparecchio non interferisca con le normali operazioni di guida del conducente.
- Evitare di installare l'apparecchio dove sia soggetto ad alte temperature, come da esposizione alla luce solare diretta o al getto di aria calda dell' impianto di riscaldamento, o dove possa essere soggetto a polvere, sporco o vibrazioni eccessive.
- Usare solo il materiale di montaggio in dotazione per un'installazione stabile e sicura.

Regolazione dell'angolo di montaggio

Regolare l'angolo di montaggio in modo che sia inferiore a 20°.

How to Detach and Attach the Front Panel

Before installing the unit, detach the front panel.

To detach

Before detaching the front panel, be sure to press the OFF button to turn off the unit. Then press the RELEASE button, slide the front panel a little to the left, and pull it off toward you.

Zum Abnehmen

Drücken Sie zuerst die Taste OFF, um das Gerät auszuschalten. Zum Lösen der Frontplatte drücken Sie dann die RELEASE-Taste, schieben die Frontplatte ein wenig nach links und ziehen sie wie in der Abbildung gezeigt ab.

Retrait et pose du panneau avant

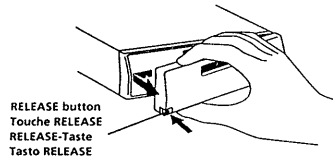
Avant d'installer l'appareil, déposer le panneau avant.

Retrait

Avant de détacher la façade, appuyez sur la touche OFF pour arrêter l'appareil. Ensuite, appuyez sur la touche RELEASE, poussez la façade légèrement vers la gauche et tirez vers vous pour l'enlever.

Per togliere

Prima di togliere il pannello anteriore, premere il tasto OFF e spegnere l'apparecchio. Quindi premere il tasto RELEASE, spingere lievemente il pannello verso sinistra e tirarlo verso di sé.



Abnehmen und Anbringen der Frontplatte

Nehmen Sie die Frontplatte vor dem Einbau des Geräts ab.

To attach

Align the parts Ⓐ and Ⓑ, and push the front panel until it clicks.

Anbringen

Richten Sie Teil Ⓐ auf Teil Ⓑ aus, und drücken Sie auf die Frontplatte, bis sie mit einem Klicken einrastet.

Come staccare e attaccare il pannello anteriore

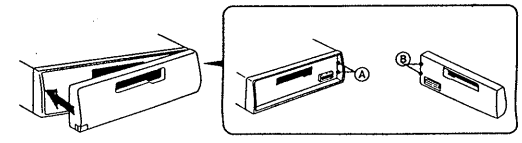
Prima di installare l'apparecchio staccare il pannello anteriore.

Pose

Aligner les points Ⓐ et Ⓑ, puis pousser l'appareil jusqu'au déclic.

Per attaccare

Allineare le parti Ⓐ e Ⓐ e spingere il pannello anteriore fino a udire uno scatto.



Mounting Example

Installation in the dashboard

Exemple de montage

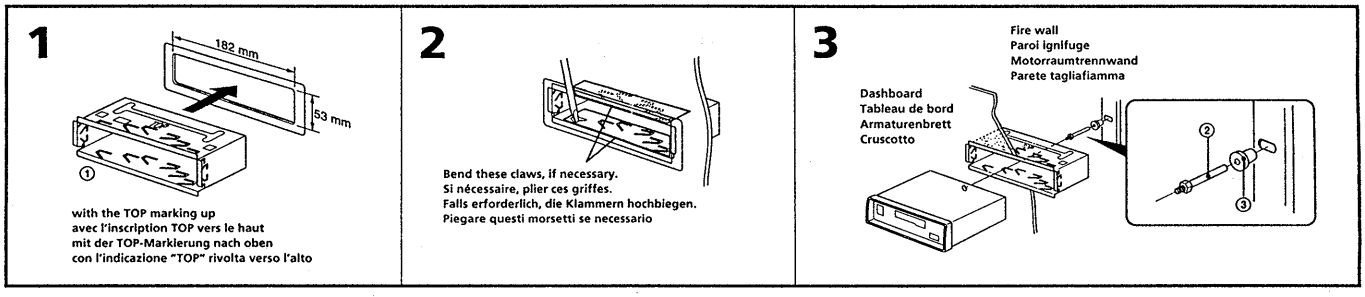
Installation dans le tableau de bord

Einbaubeispiel

Installation im Armaturenbrett

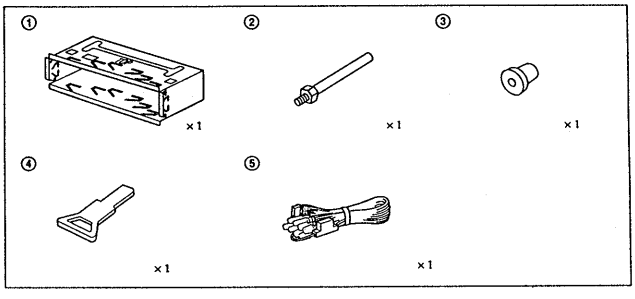
Esempio di montaggio

Installazione sul cruscotto



Parts for Installation and Connections
Pièces de montage et de raccordement
Montageteile und Anschlußzubehör
Componenti per installazione e collegamenti

The numbers in the list are keyed to those in the instructions.
Les numéros de la liste correspondent à ceux des instructions.
Die Nummern in der Liste sind dieselben wie im Erläuterungstext.
I numeri nella lista corrispondono a quelli riportati nelle istruzioni.



Connections

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **yellow** and **red** power input leads only after all other leads have been connected.
- Be sure to connect the red power input lead to the positive 12 V power terminal which is energized when the ignition key is in the accessory position.
- **Run all ground wires to a common ground point.**

If Your Car has No Accessory Position on the Ignition Key Switch — POWER SELECT Switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if your car has no accessory position on the ignition key switch.** To avoid this battery wear, **set the POWER SELECT switch located on the bottom of the unit to the ❽ position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Note

The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the ❽ position.

Connexions

Précautions

- Cet appareil est conçu pour fonctionner sur tension continue de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher les fils d'entrée d'alimentation **jaune** et **rouge** seulement après avoir terminé tous les autres branchements.
- Veiller à ne pas raccorder le fil rouge d'entrée d'alimentation à la borne positive de 12 V qui est alimentée quand la clé de contact est sur la position accessoire.
- **Rassembler tous les fils de terre en un point de masse commun.**

Si l'appareil est utilisé dans une voiture dont la clé de contact n'a pas de position accessoires — Interrupteur POWER SELECT

L'éclairage du panneau avant est réglé en usine de manière à s'allumer même quand l'appareil ne fonctionne pas. Cependant, ce réglage risque d'épuiser la batterie **si l'appareil est utilisé dans une voiture dont la clé de contact ne possède pas de position accessoires.** Pour éviter d'épuiser la batterie, régler l'interrupteur **POWER sur le socle de l'appareil sur la position ❽, puis appuyer sur la touche de réinitialisation.** L'éclairage est réglé pour rester éteint quand l'appareil n'est pas utilisé.

Remarque

Quand l'interrupteur POWER SELECT est réglé sur la position ❽, l'avertisseur du panneau avant ne fonctionne pas.

Anschluß

Vorsicht

- Dieses Gerät ist ausschließlich für eine negativ geerdete 12-V-Autobatterie bestimmt.
- Trennen Sie vor dem Anschließen des Geräts die Erdungsklemme der Batterie ab, um einen Kurzschluß zu vermeiden.
- Schließen Sie das **gelbe** und **rote** Stromversorgungskabel erst an, wenn alle anderen Kabel bereits angeschlossen sind.
- Leiten Sie das rote Stromversorgungskabel an einen positiven 12-V-Kontakt, an dem Spannung anlicgt, wenn sich das Zündschloß in der Position I bzw. ACC (Position vor der Zündposition) befindet.
- **Schließen Sie alle Erdungskabel an einen gemeinsamen Massepunkt an.**

Wenn das Zündschloß Ihres Wagens keine Position I bzw. ACC besitzt — POWER SELECT-Schalter

Das Gerät ist werkseitig so voreingestellt, daß das Bedienfeld auch dann beleuchtet ist, wenn das Gerät nicht betrieben wird. Besitzt das Zündschloß Ihres Fahrzeugs **keine Position I bzw. ACC, so ist die Beleuchtung ständig eingeschaltet** und entzieht der Batterie Strom. Stellen Sie in einem solchen Fall **den POWER SELECT-Schalter an der Unterseite des Geräts auf Position ❽, und drücken Sie dann die Rücksetztaste.** Bei ausgeschaltetem Gerät ist das Bedienfeld dann nicht mehr beleuchtet.

Hinweis

Der Warnton für die Frontplatte ertönt nicht, wenn der POWER SELECT-Schalter auf Position ❽ gestellt ist.

Collegamenti

Attenzione

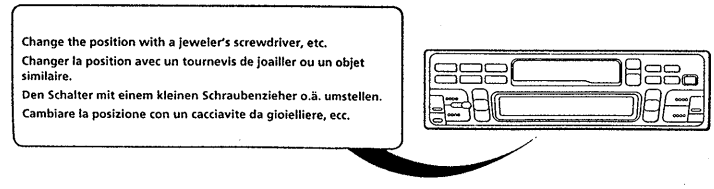
- Questo apparecchio è stato progettato per l'uso solo a 12 V CC con massa negativa.
- Prima di eseguire i collegamenti, scollegare il terminale di massa della batteria dell'auto per evitare cortocircuiti.
- Collegare i cavi di ingresso alimentazione **rosso** e **giallo** solo dopo aver collegato tutti gli altri cavi.
- Assicurarsi di collegare il cavo rosso di ingresso alimentazione al terminale di alimentazione 12 V positivo che è sotto tensione quando la chiavetta di accensione è in posizione accessoria.
- **Portare tutti i cavi di massa a un punto di massa comune.**

Quando si usa l'apparecchio in un'auto priva di posizione accessoria per la chiavetta di accensione — Interruttore POWER SELECT

L'illuminazione del pannello anteriore è stata predisposta in fabbrica per l'attivazione anche quando non si usa l'apparecchio. Tuttavia questa regolazione può causare scaricamento della batteria dell'auto **se si usa l'apparecchio in un'auto priva di posizione accessoria per la chiavetta di accensione.** Per evitare ciò, **regolare su ❽ l'interruttore POWER SELECT situato alla base dell'apparecchio e quindi premere il tasto di azzeramento.** L'illuminazione rimane così spenta finché l'apparecchio rimane spento.

Nota

La suoneria di avvertimento per il pannello anteriore non si attiva quando l'interruttore POWER SELECT è in posizione ❽.


Change the position with a jeweler's screwdriver, etc.
Changer la position avec un tournevis de joailler ou un objet similaire.
Den Schalter mit einem kleinen Schraubenzieher o.ä. umstellen.
Cambiare la posizione con un cacciavite da gioielliere, ecc.

Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc.

Touche de réinitialisation

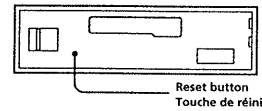
Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo bille ou un objet pointu.

Rücksetztaste

Nach der Installation und dem Anschluß muß die Rücksetztaste mit einem Kugelschreiber o.ä. gedrückt werden.

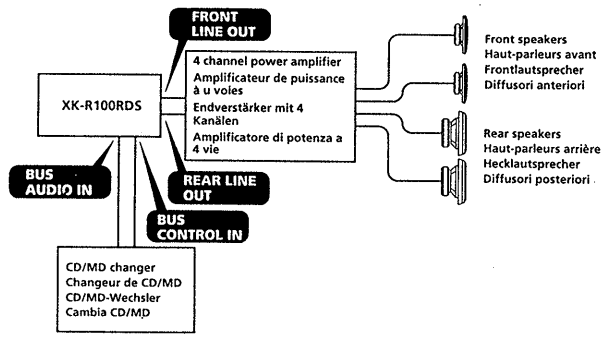
Pulsante di azzeramento

Dopo avere terminato l'installazione e i collegamenti, assicurarsi di premere il pulsante di azzeramento con la punta di una penna a sfera ecc.

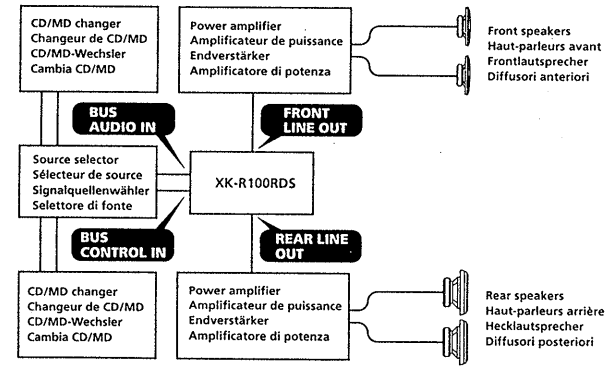


Connection Diagram — Schémas de connexion — Anschlußdiagramm — Schema di collegamento

Example 1/Exemple 1/Beispiel 1/Esempio 1



Example 2/Exemple 2/Beispiel 2/Esempio 2



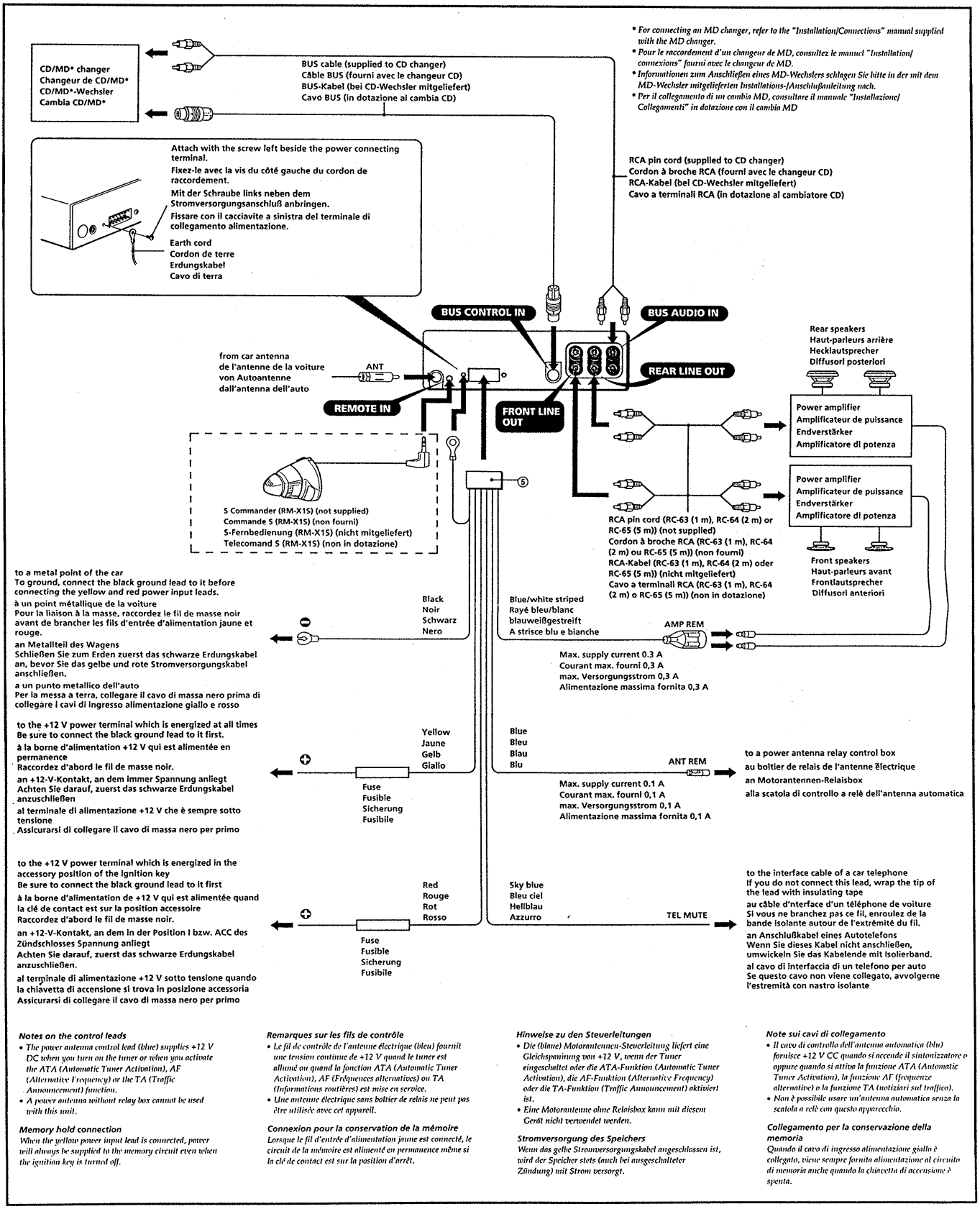
For connecting two or more changers, the source selector XA-U120 or XA-U40 (optional) and the BUS cable RC-61 (1 m) or RC-62 (2 m) (optional) are necessary.

Pour le raccordement de deux ou plusieurs changeurs, vous devez utiliser le sélecteur de source XA-U120 ou XA-U40 (optionnels) et le câble BUS RC-61 (1 m) ou RC-62 (2 m) (optionnels).

Zum Anschluß von zwei oder mehr CD/MD-Wechslern werden der Signalquellenwähler XA-U120 oder XA-U40 (getrennt erhältlich) und das BUS-Kabel RC-61 (1 m) oder RC-62 (2 m) (getrennt erhältlich) benötigt.

Se si collegano due o più cambia CD o MD, si devono utilizzare il selettore di fonte XA-U120 o XA-U40 (opzionali) e il cavo BUS RC-61 (1 m) o RC-62 (2 m) (opzionali).

Connections of Example — Connexions de l'exemple — Anschlußbeispiel — Collegamenti per l'esempio


CD/MD* changer
Changeur de CD/MD*
CD/MD*-Wechsler
Cambia CD/MD*
BUS cable (supplied to CD changer)
Câble BUS (fourni avec le changeur CD)
BUS-Kabel (bei CD-Wechsler mitgeliefert)
Cavo BUS (in dotazione al cambia CD)
* For connecting an MD changer, refer to the "Installation/Connections" manual supplied with the MD changer.
* Pour le raccordement d'un changeur de MD, consultez le manuel "Installation/connexions" fourni avec le changeur de MD.
* Informationen zum Anschließen eines MD-Wechslers schlagen Sie bitte in der mit dem MD-Wechsler mitgelieferten Installations-/Anschlußanleitung nach.
* Per il collegamento di un cambia MD, consultare il manuale "Installazione/Collegamenti" in dotazione con il cambia MD
Attach with the screw left beside the power connecting terminal.
Fixez-le avec la vis du côté gauche du cordon de raccordement.
Mit der Schraube links neben dem Stromversorgungsanschluß anbringen.
Fissare con il cacciavite a sinistra del terminale di collegamento alimentazione.
Earth cord
Cordon de terre
Erdungskabel
Cavo di terra
RCA pin cord (supplied to CD changer)
Cordon à broche RCA (fourni avec le changeur CD)
RCA-Kabel (bei CD-Wechsler mitgeliefert)
Cavo a terminali RCA (in dotazione al cambiatore CD)
BUS CONTROL IN
BUS AUDIO IN
REAR LINE OUT
FRONT LINE OUT
REMOTE IN
ANT
from car antenna
de l'antenne de la voiture
von Autoantenne
dall'antenna dell'auto
Rear speakers
Haut-parleurs arrière
Hecklautsprecher
Diffusori posteriori
Power amplifier
Amplificateur de puissance
Endverstärker
Amplificatore di potenza
Power amplifier
Amplificateur de puissance
Endverstärker
Amplificatore di potenza
Front speakers
Haut-parleurs avant
Frontlautsprecher
Diffusori anteriori
S Commander (RM-X1S) (not supplied)
Commande S (RM-X1S) (non fourni)
S-Fernbedienung (RM-X1S) (nicht mitgeliefert)
Telecomand S (RM-X1S) (non in dotazione)
RCA pin cord (RC-63 (1 m), RC-64 (2 m) or RC-65 (5 m)) (not supplied)
Cordon à broche RCA (RC-63 (1 m), RC-64 (2 m) ou RC-65 (5 m)) (non fourni)
RCA-Kabel (RC-63 (1 m), RC-64 (2 m) oder RC-65 (5 m)) (nicht mitgeliefert)
Cavo a terminali RCA (RC-63 (1 m), RC-64 (2 m) o RC-65 (5 m)) (non in dotazione)
to a metal point of the car
To ground, connect the black ground lead to it before connecting the yellow and red power input leads.
à un point métallique de la voiture
Pour la liaison à la masse, raccordez le fil de masse noir avant de brancher les fils d'entrée d'alimentation jaune et rouge.
an Metallteil des Wagens
Schließen Sie zum Erden zuerst das schwarze Erdungskabel an, bevor Sie das gelbe und rote Stromversorgungskabel anschließen.
a un punto metallico dell'auto
Per la messa a terra, collegare il cavo di massa nero prima di collegare i cavi di ingresso alimentazione giallo e rosso
Black
Noir
Schwarz
Nero
Blue/white striped
Rayé bleu/blanc
blauweißgestreift
A strisce blu e bianche
AMP REM
Max. supply current 0.3 A
Courant max. fourni 0,3 A
max. Versorgungsstrom 0,3 A
Alimentazione massima fornita 0,3 A
to the +12 V power terminal which is energized at all times
Be sure to connect the black ground lead to it first.
à la borne d'alimentation +12 V qui est alimentée en permanence
Raccordez d'abord le fil de masse noir.
an +12-V-Kontakt, an dem immer Spannung anliegt
Achten Sie darauf, zuerst das schwarze Erdungskabel anzuschließen
al terminale di alimentazione +12 V che è sempre sotto tensione
Assicurarsi di collegare il cavo di massa nero per primo
Yellow
Jaune
Gelb
Giallo
Fuse
Fusible
Sicherung
Fusibile
Blue
Bleu
Blau
Blu
ANT REM
to a power antenna relay control box
au boîtier de relais de l'antenne électrique
an Motorantennen-Relaisbox
alla scatola di controllo a relè dell'antenna automatica
Max. supply current 0.1 A
Courant max. fourni 0,1 A
max. Versorgungsstrom 0,1 A
Alimentazione massima fornita 0,1 A
to the +12 V power terminal which is energized in the accessory position of the ignition key
Be sure to connect the black ground lead to it first
à la borne d'alimentation de +12 V qui est alimentée quand la clé de contact est sur la position accessoire
Raccordez d'abord le fil de masse noir.
an +12-V-Kontakt, an dem in der Position I bzw. ACC des Zündschlosses Spannung anliegt
Achten Sie darauf, zuerst das schwarze Erdungskabel anzuschließen.
al terminale di alimentazione +12 V sotto tensione quando la chiavetta di accensione si trova in posizione accessoria
Assicurarsi di collegare il cavo di massa nero per primo
Red
Rouge
Rot
Rosso
Fuse
Fusible
Sicherung
Fusibile
Sky blue
Bleu ciel
Hellblau
Azzurro
TEL MUTE
to the interface cable of a car telephone
If you do not connect this lead, wrap the tip of the lead with insulating tape
au câble d'nterface d'un téléphone de voiture
Si vous ne branchez pas ce fil, enroulez de la bande isolante autour de l'extrémité du fil.
an Anschlußkabel eines Autotelefons
Wenn Sie dieses Kabel nicht anschließen, umwickeln Sie das Kabelende mit Isolierband.
al cavo di interfaccia di un telefono per auto
Se questo cavo non viene collegato, avvolgerne l'estremità con nastro isolante

Notes on the control leads

- *The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation), AF (Alternative Frequency) or the TA (Traffic Announcement) function.*
- *A power antenna without relay box cannot be used with this unit.*

Memory hold connection

When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Remarques sur les fils de contrôle

- *Le fil de contrôle de l'antenne électrique (bleu) fournit une tension continue de +12 V quand le tuner est allumé ou quand la fonction ATA (Automatic Tuner Activation), AF (Fréquences alternatives) ou TA (Informations routières) est mise en service.*
- *Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.*

Connexion pour la conservation de la mémoire

Lorsque le fil d'entrée d'alimentation jaune est connecté, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Hinweise zu den Steuerleitungen

- *Die (blaue) Motorantennen-Steuerleitung liefert eine Gleichspannung von +12 V, wenn der Tuner eingeschaltet oder die ATA-Funktion (Automatic Tuner Activation), die AF-Funktion (Alternative Frequency) oder die TA-Funktion (Traffic Announcement) aktiviert ist.*
- *Eine Motorantenne ohne Relaisbox kann mit diesem Gerät nicht verwendet werden.*

Stromversorgung des Speichers

Wenn das gelbe Stromversorgungskabel angeschlossen ist, wird der Speicher stets (auch bei ausgeschalteter Zündung) mit Strom versorgt.

Note sui cavi di collegamento

- *Il cavo di controllo dell'antenna automatica (blu) fornisce +12 V CC quando si accende il sintonizzatore o oppure quando si attiva la funzione ATA (Automatic Tuner Activation), la funzione AF (frequenze alternative) o la funzione TA (notiziari sul traffico).*
- *Non è possibile usare un'antenna automatica senza la scatola a relè con questo apparecchio.*

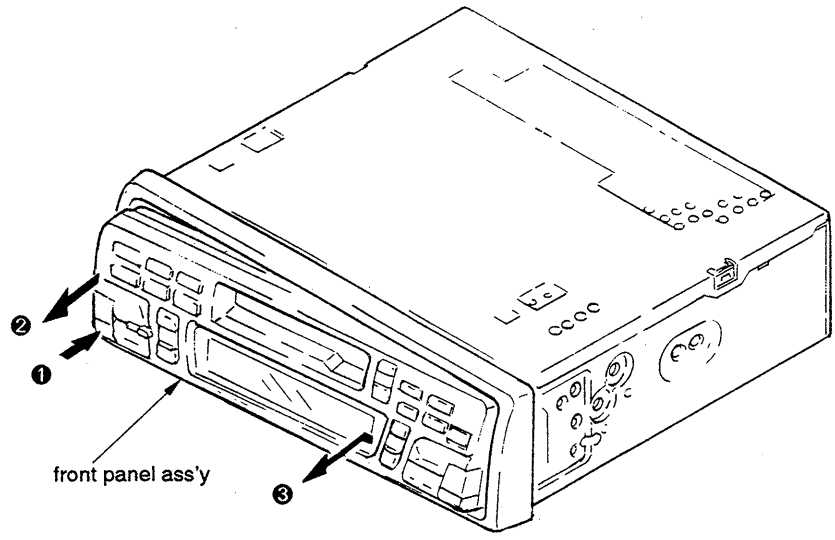
Collegamento per la conservazione della memoria

Quando il cavo di ingresso alimentazione giallo è collegato, viene sempre fornita alimentazione al circuito di memoria anche quando la chiavetta di accensione è spenta.

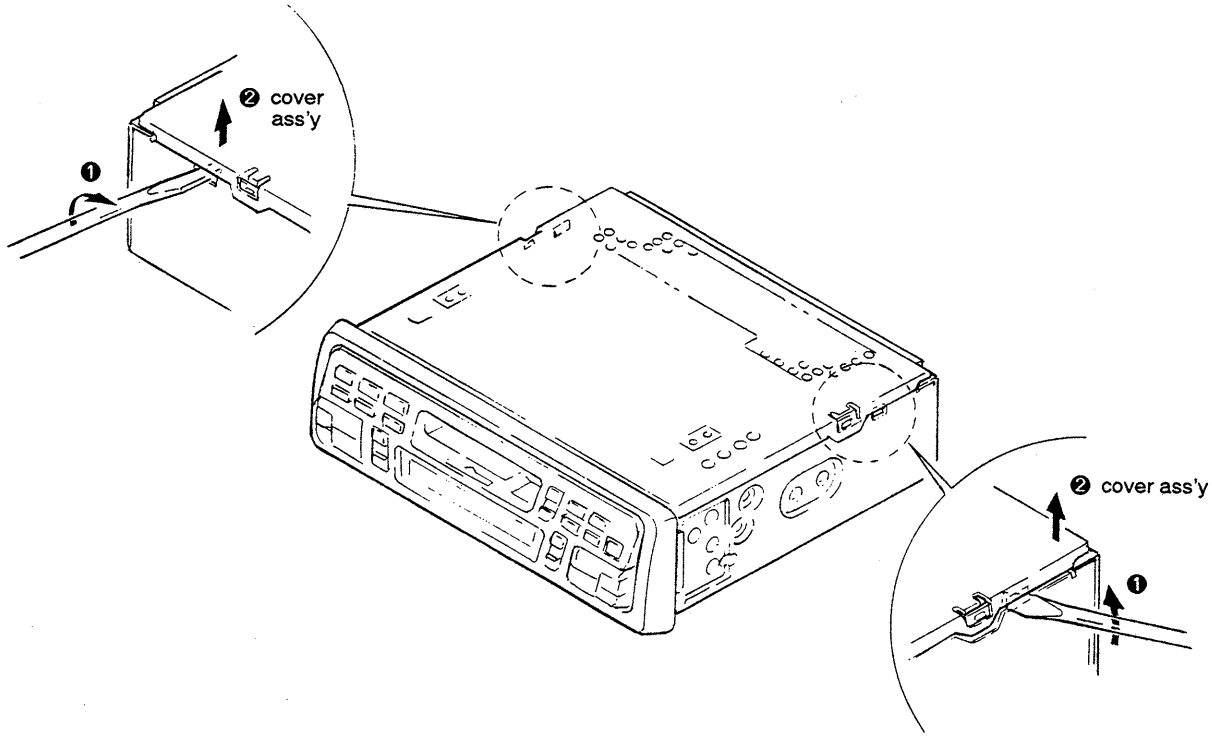
SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

FRONT PANEL ASS'Y



COVER ASS'Y



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment:
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	30−65g•cm (0.42−0.90 oz•inch)
FWD Back Tension		0.5−4.5g•cm (0.01−0.06 oz•inch)
REV	CQ-102RC	30−65g•cm (0.42−0.90 oz•inch)
REV Back Tension		0.5−4.5g•cm (0.01−0.06 oz•inch)
FF, REW	CQ-201B	60−200g•cm (0.83−2.78 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 90g (more than 3.18 oz)
REV	CQ-403R	

SECTION 4
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be perfrmed easier than it in ordinary procedure.

〈Set the Test Mode〉

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for two seconds.
5. Then the display indicates all lights, the test mode is set.

〈Release the Test mode〉

1. Push the "OFF" button.

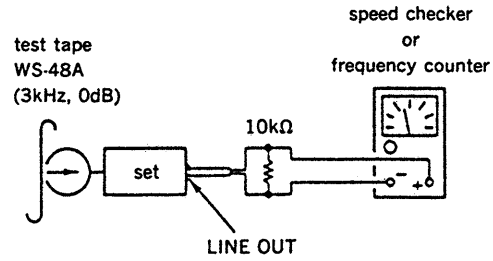
See the adjustment location from on page 12 for the adjustment.

DECK SECTION　**0dB=0.775V**

Tape Speed Adjustment

Procedure:

1. Put the set into the FWD PB mode.



Specification: Constant speed

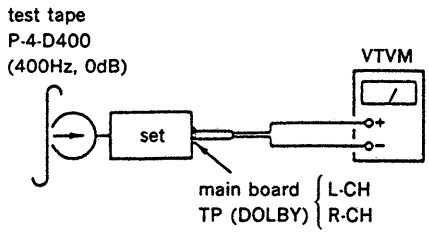
Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location: See page 12.

DOLBY Level Adjustment

Setting:

Preset [3] (DOLBY) button : OFF
SEL (BAS) button : Center
SEL (TRE) button : Center
SEL (BAL) button : Center
SEL (VOL) button : Maximum



Procedure:

1. Put the set into the FWD PB mode.
2. Adjust RV151 (L-CH) and RV251 (R-CH) so that VTVM reading is −6±0.5 dB (0.37 to 0.41V).

Adjustment Location: See page 12.

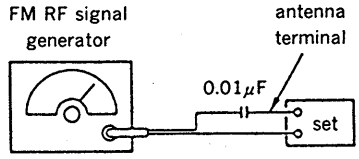
TUNER SECTION **0dB=1μV**

Cautions during repair
When the front end is defective, replace it by a new one because its internal block is difficult to repair.

FM Auto Scan/Stop Level Adjustment

Setting :

TUNER button : FM

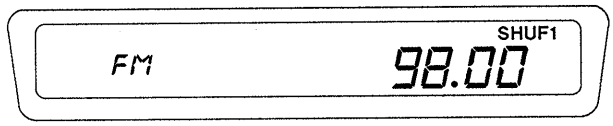


Carrier frequency : 98.00MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : 1kHz, 75kHz deviation

Procedure :

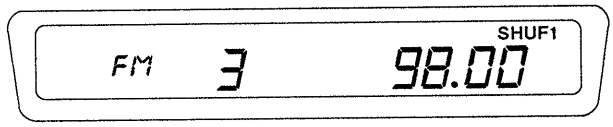
1. Set to the test mode. (See page 8.)
2. Push the [TUNER] button and set to FM.

Display



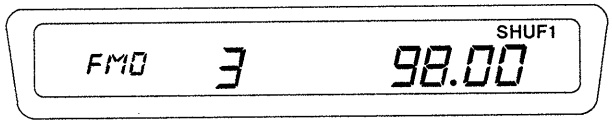
3. Push the preset [3] button.

Display



4. Adjust with the volume RV3 on TU1 so that the "FM" indication turns to "FM0" indication on the display window.
   But, in case of already indicated "FM0", turn the RV3 so that put out light "0" indication and adjustment.

Display

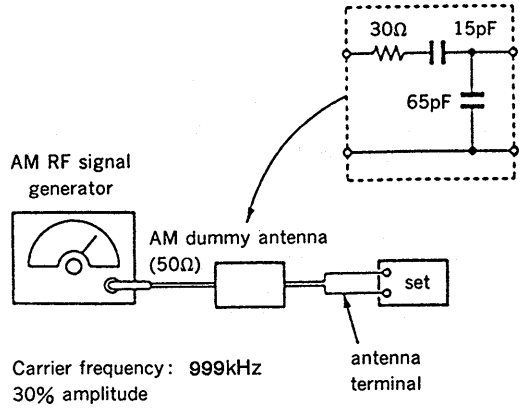


Adjustment Location : See page 12.

MW Auto Scan /Stop Level Adjustment

Setting :

TUNER button : MW

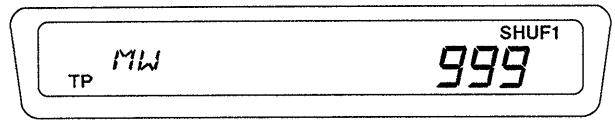


Carrier frequency : 999kHz
30% amplitude modulation by 400Hz signal
Output level : 33dB (44.7μV)

Procedure :

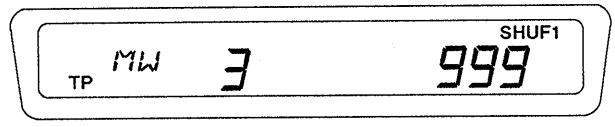
1. Set to the test mode. (See page 8.)
2. Push the [TUNER] button and set to MW.

Display



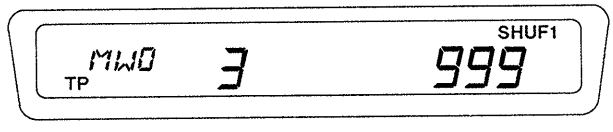
3. Push the preset [3] button.

Display



4. Adjust with the volume RV1 on TU1 so that the "MW" indication turns to "MW0" indication on the display window.
   But, in case of already indicated "MW0", turn the RV1 so that put out light "0" indication and adjustment.

Display

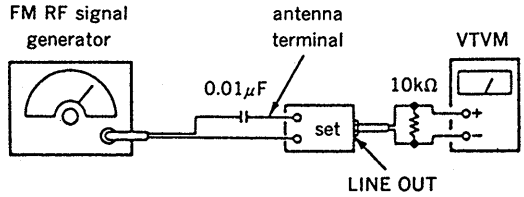


Adjustment Location : See page 12.

High Cut Control Effect Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.00MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 10kHz, 40kHz deviation

Procedure :

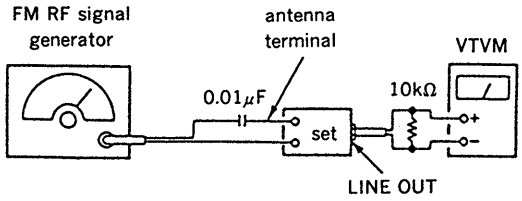
1. Tune the 98.00MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV2 on TU1 so that the output level is (A)−5dB then signal generator input set to 20dB.

Adjustment Location : See page 12.

FM Noise Focus Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.00MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation

Procedure :

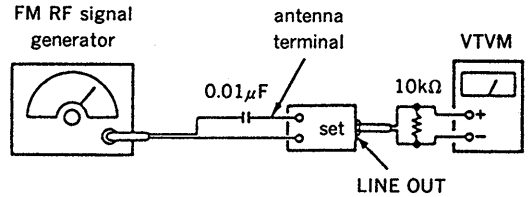
1. Tune the 98.00MHz.
2. The then output level is supposing that (B) dB.
3. Adjust with the volume RV5 on TU1 so that the output level is (B)−30dB then signal generator input set to −20dB.

Adjustment Location : See page12.

FM Stereo Separation Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.00MHz
Output level : 70dB (3.2mV)
Mode : stereo
Modulation : main : 1kHz, 20kHz deviation (26%)
sub : 1kHz, 20kHz deviation (26%)
19kHz pilot : 7.5kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 on TU1 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 on TU1 for minimum reading.

L-CH Stereo separation : Ⓐ−Ⓑ
R-CH Stereo separation : Ⓒ−Ⓓ
The separations of both channels should be equal.

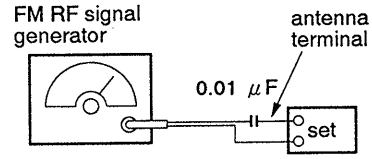
Specification : Separation more than 30dB

Adjustment Location : See page 12.

RDS S-Meter Adjustment

Setting:

TUNER button: FM

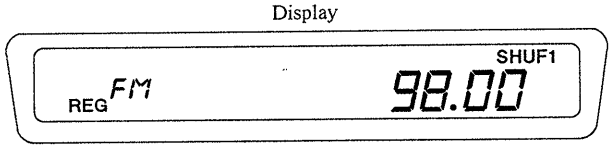


Carrier frequency : 98.00MHz
Output level : 35dB (56.2 μV)
Mode : mono
Modulation : no modulation

Procedure:

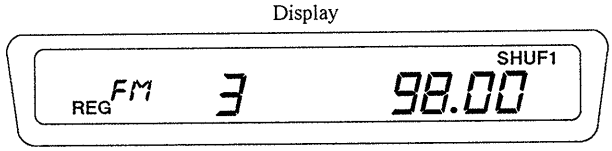
1. Set to the test mode. (See page 8.)
2. Push the [TUNER] button and set to FM.

Display



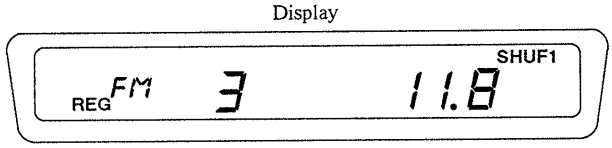
3. Push the preset [3] button.

Display



4. Push the preset [6] button.
5. Adjust RV331 so that the display indication is "11.8".

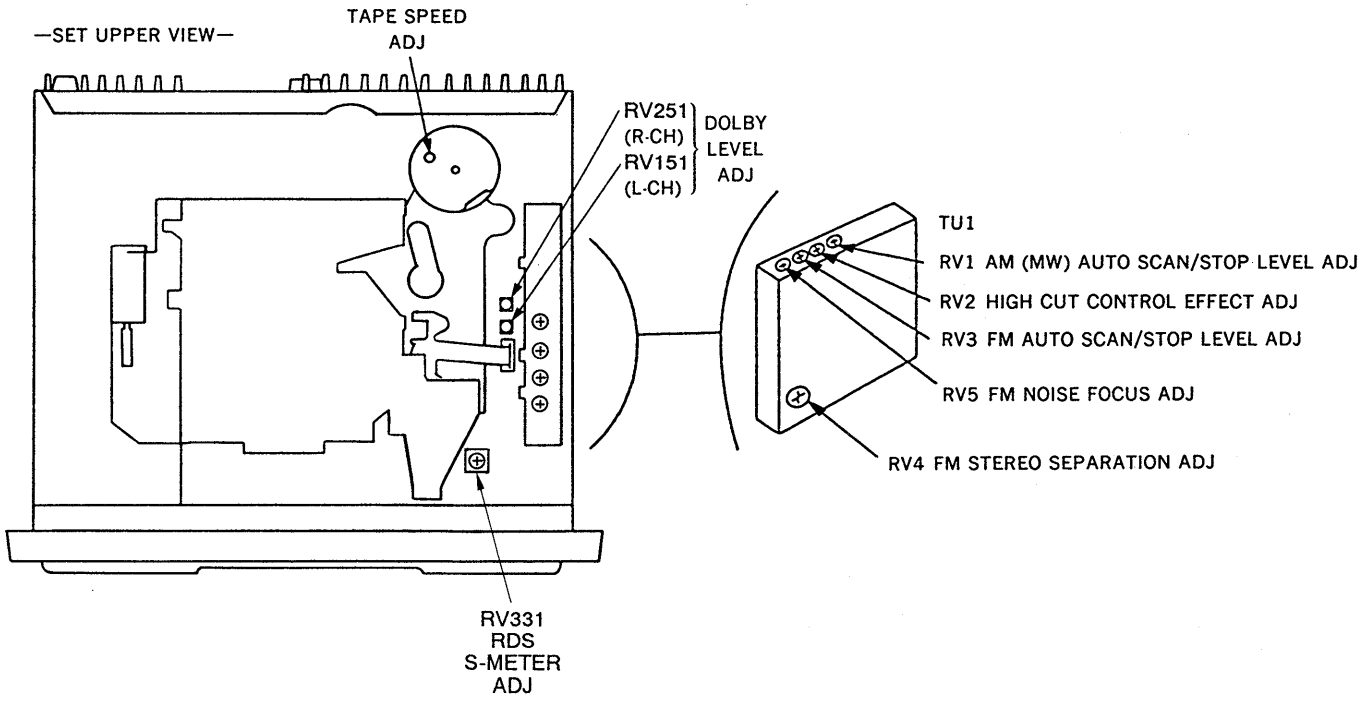
Display



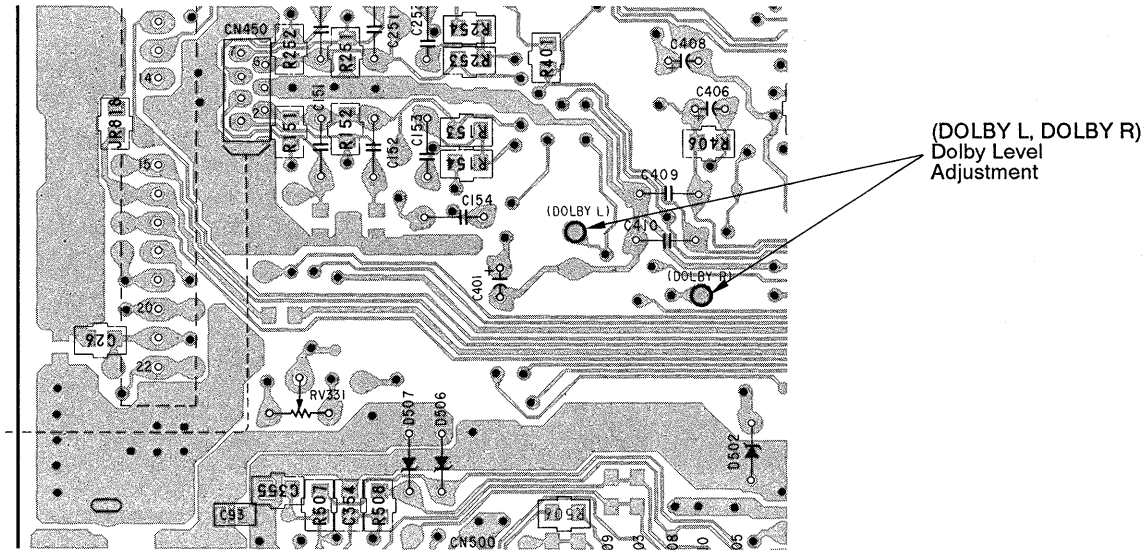
Specification: Display indication: 11.6 to 12.0

Adjustment Location: See page 12.

Adjustment Location :

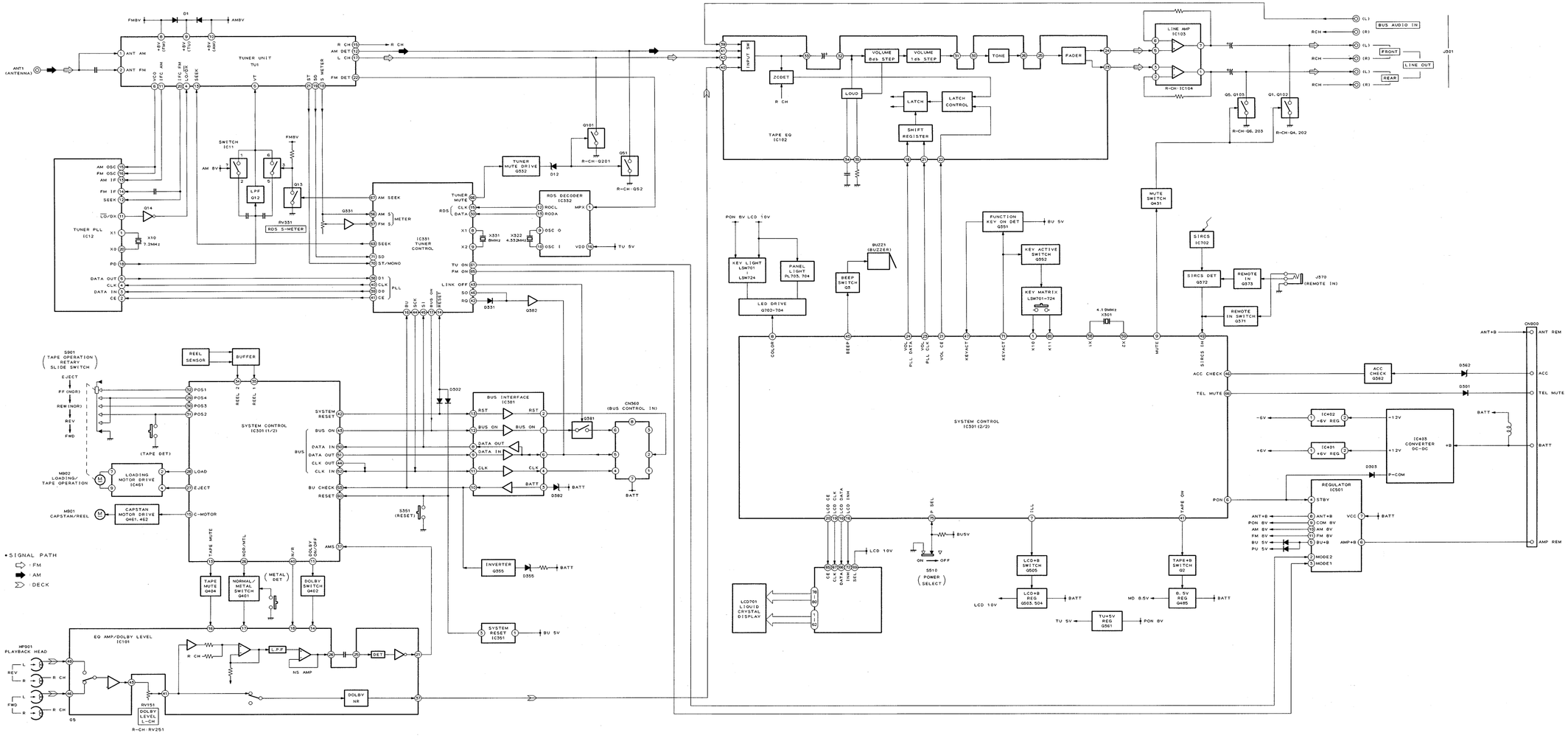


– MAIN BOARD (Conductor Side) –



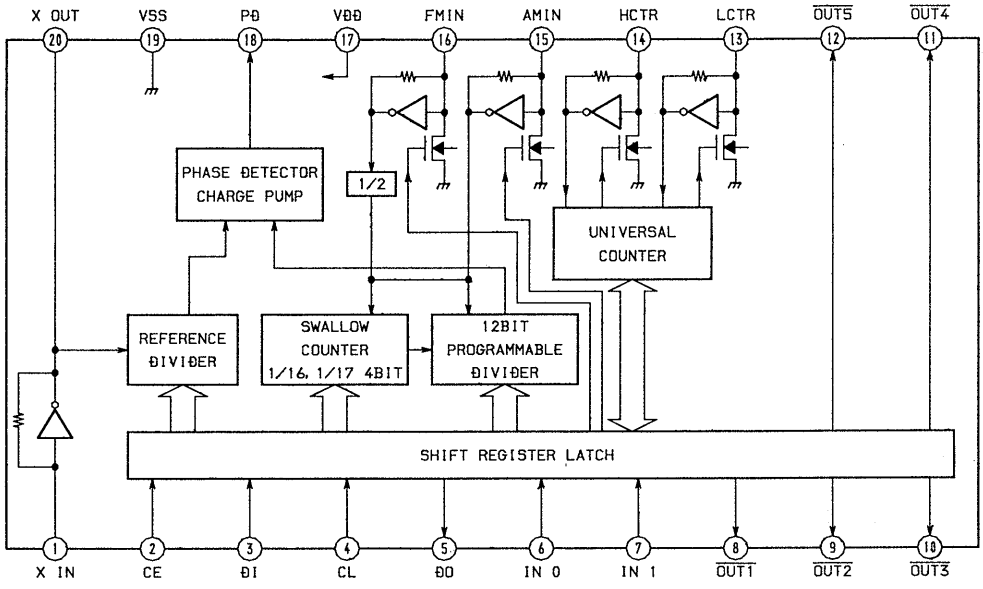
SECTION 5
DIAGRAMS

5-1. BLOCK DAIGRAM

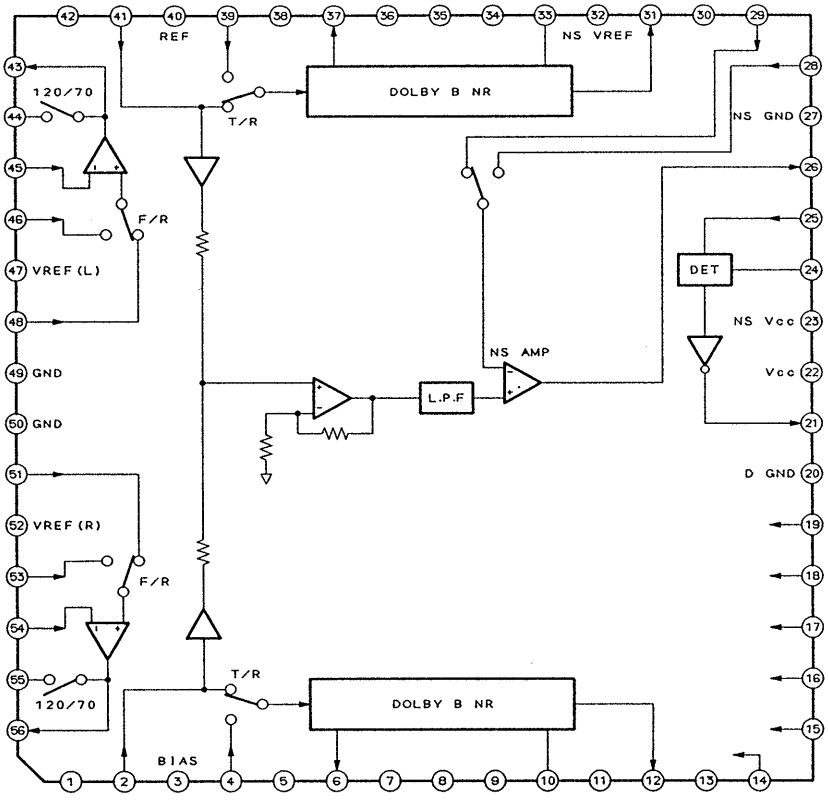


• IC Block Diagrams

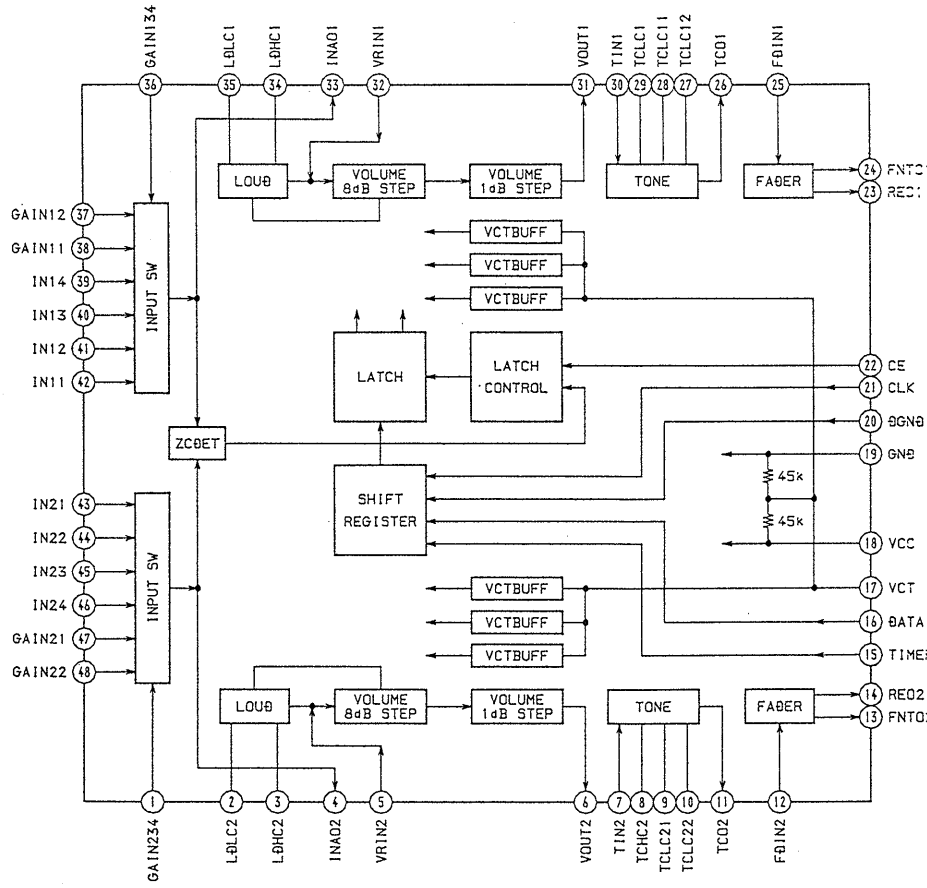
IC12 LC7216M



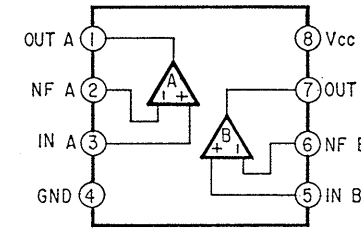
IC101 HA12164



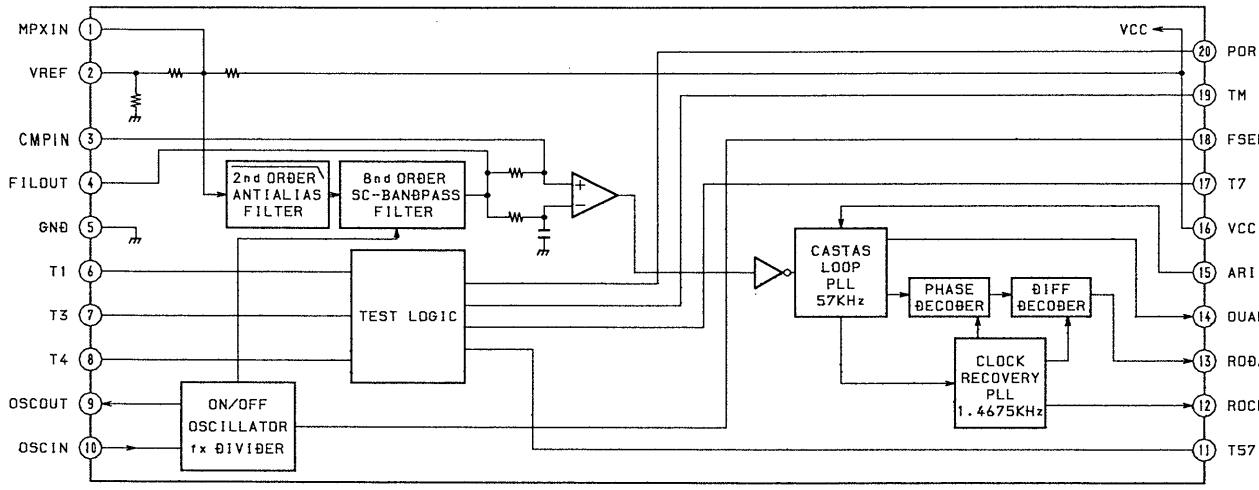
IC102 CXA1946Q



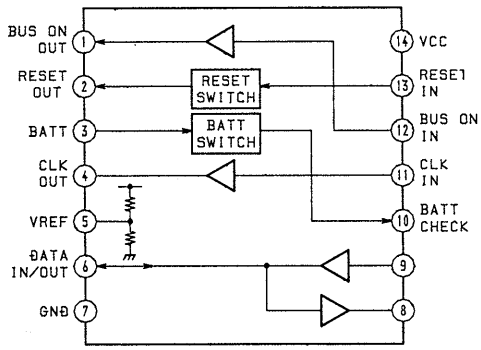
IC103, 104 NJM4580E



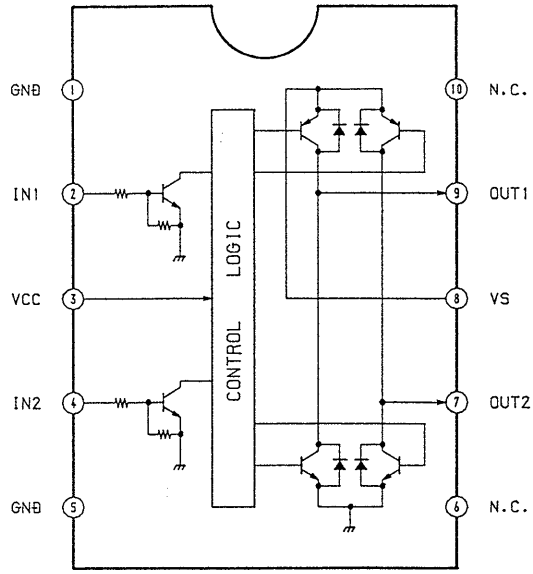
IC332 TDA7330BD-013TR



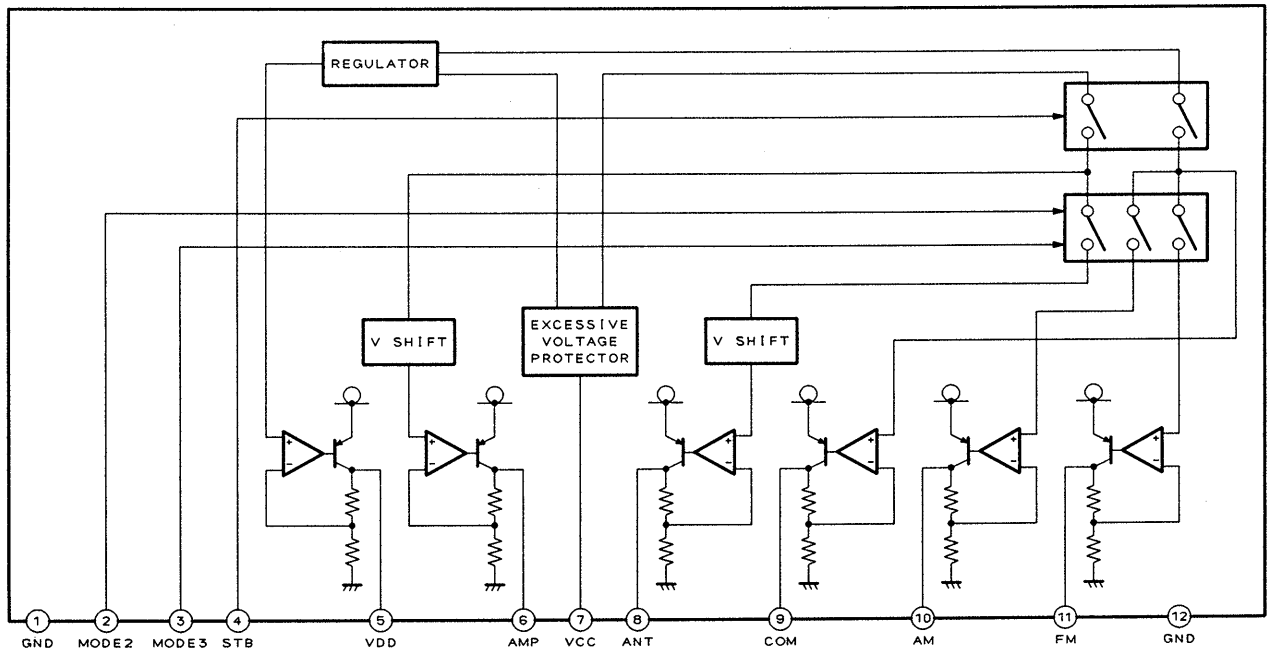
IC381 MM1175XFF



IC461 LB1638M



IC501 BA3918-V2



5-2. IC PIN FUNCTION DESCRIPTION

MAIN BOARD IC301 μPD75518GF-308-3B9 (SYSTEM CONTROL)

in No.	Pin Name	I/O	Pin Description
1	KI0	I	KEY input
2	VREF	I	A/D reference voltage input
3, 4	VDD	—	Power supply terminal
5	N. C	—	No connection
6	P-ON	O	At P-ON : High output
7	ILL-ON	O	At ACC-ON : High output (P-SEL : ON) At P-ON : High output (P-SEL : OFF)
8	COLOR	—	Not used.
9	MUTE	O	At MUTE : High output
10	AUX-MUTE	—	Not used.
11	DOLBY-ON/OFF	O	At DOLBY-NR ON : Low output
12	TUNER-MUTE	—	Not used.
13	TAPE-MUTE	O	Except for TAPE PLAYBACK : Low output (At movement on FF, REW and AMS : High output)
14	AMP-ON	O	Inner power amplifier control terminal. At AMP-ON : High output
15	C-MOTOR	O	Capstan motor control terminal. At MOTOR-ON : High output
16	LCD-INH	O	INHIBIT signal to LCD driver IC. At Low output : Light off
17	TEST MODE	I	At Low input : TEST MODE 1. Input available at timing only of RESET L to H and BU CHECK L to H.
18	LCD-DATA	O	DATA output terminal to LCD driver IC.
19	LCD-CLK	O	CLOCK output terminal to LCD driver IC.
20	LCD-CE	O	LATCH output terminal to LCD driver IC.
21	VOL-CE	O	LATCH output terminal to VOL IC.
22	PLL-CE	O	LATCH output terminal to PLL IC.
23	VOL. PLL-CLK	O	CLOCK output terminal to VOL and PLL IC.
24	VOL. PLL-DATA	O	DATA output terminal to VOL and PLL IC.
25	PLL DATA IN	I	DATA input terminal from PLL IC.
26	NOR/MTL	I/O	At AUTO METAL : METAL input terminal. At METAL : Low input, at NORMAL : High input. At no AUTO METAL : METAL output terminal. At METAL : Low output, at NORMAL : High input.
27	EJECT	O	LOADING MOTOR control terminal. At moving in the direction of EJECT : High output.
28	LOAD	O	LOADING MOTOR control terminal. At moving in the direction of LOAD and PLAY : High output.
29—32	POS4—POS1	I	MD position detection terminal
33	GND	—	GND
34	REEL2	I	MD reel table rotation detection terminal. FWD supply side
35	REEL1	I	MD reel table rotation detection terminal. FWD take-up side
36	AUT-MTL	—	Connect to GND.
37	AMS-IN	I	TAPE music with/without detection terminal. Low input : With music, High input : Without music
38	EEPROM-DATA	—	Connect to GND.
39	EEPROM-CLK	—	Not used.
40	N/R	O	NORMAL/$\overline{\text{REVERSE}}$ output terminal
41	TAPE-ON	O	OR output of LM•EJECT and LM•LOAD. At one side ACTIVE : High output, at REEL detection : High output
42	SYSTEM RESET	O	UNILINK $\overline{\text{SYSTEM RESET}}$ terminal. Low output : SYSTEM RESET

Pin No.	Pin Name	I/O	Pin Description
43	BUS-ON	O	For UNILINK terminal
44	CLK-OUT	O	For UNILINK terminal
45	BEEP	O	For piezoelectric buzzer output terminal
46	ACC-CHECK	I	Accessory detection terminal. Low input : ACC ON
47	KEY-ACK	I	KEY ACKNOWLEDGE input terminal. For KEY insert input
48	C-ALARM	I	Caution alarm with/without initial setting terminal. Low input : With caution alarm
49	SIRCS-IN	I	SIRCS (REM DET) input terminal
50	DATA-IN	I	For UNILINK terminal
51	DATA-OUT	O	For UNILINK terminal
52	CLK-IN	I	For UNILINK terminal
53	BU. CHECK	I	Back Up voltage detection terminal
54	VSS	—	GND
55	XT1	—	Connect to GND.
56	XT2	—	Not used.
57	IC	—	Connect to GND.
58	X1	—	Connect to crystal. (4.19MHz)
59	X2	—	Connect to crystal. (4.19MHz)
60	RESET	I	RESET input
61, 62	—	—	Connect to GND.
63	SK	—	Not used.
64	DK	—	Not used.
65	SD	I	High input : With SD
66	TEL-MUTE	I	Low input : 20dB audio mute
67	ST-IN	I	Low input : Stereo
68	N-SW	I	Low input : With front panel
69	AM-ON	—	Not used.
70	FM-ON	—	Not used.
71	KEY-ACT	O	At A/D port input possible mode : Low output
72	—	—	Not used.
73	A. GND	—	A/D GND
74	DOLBY-SEL	—	Connect to GND.
75	P-SEL	I	POWER SELECT switch input. High input : ON, Low input : OFF. (Low input : Setting without ACC position)
76	DEST1	—	Not used.
77	DEST0	—	Not used.
78	AM-S-METER	—	Not used.
79	FM-S-METER	—	Not used.
80	KI1	I	KEY input terminal

MAIN BOARD IC331 MN1883220SZJ (TUNER CONTROL)

Pin No.	Pin Name	I/O	Description
1	A5	O	S-RAM ADDRESS control output. Not used.
2	A4		
3	A3		
4	A2		
5	A1		
6	A0		
7	VDD	—	Power supply pin.
8	X1	—	Connecting pins of the ceramic oscillator.
9	X2	—	
10	GND	—	
11	XTI	—	Not used.
12	XTO	—	
13	XO	—	Connected to GND.
14	$\overline{\text{RESET}}$	I	Reset input pin.
15	RDS CLK	I	RDS CLK input pin.
16	BU CHECK	I	BACK-UP detection.
17	BUS ON	I	BUS INTERFACE ON/OFF detection.
18	D7	I/O	S-RAM DATA BUS. Not used.
19	D6		
20	D5		
21	D4		
22	D3		
23	D2		
24	D1		
25	D0		
26	RE	O	S-RAM READ ENABLE output. Not used.
27	WE	O	S-RAM WRIGHT ENABLE output. Not used.
28	—	—	Not used.
29	—	—	
30	RDS DATA	I	RDS DATA input.
31	FM AMS IN	I	Not used.
32	AM ST IN	I	Not used.
33	—	—	Not used.
34	—	—	
35	—	—	
36	—	—	Connected to GND.
37	—	—	
38	PLL DI	I	PLL DATA input.
39	PLL DO	O	PLL DATA output.
40	PLL CLK	O	PLL CLK output.

Pin No.	Pin Name	I/O	Description
41	PLL CE	O	PLL CE output.
42	RQ	O	BUS REQUEST output.
43	LINK OFF	O	Not used.
44	SCK	I	BUS INTERFACE CLK input.
45	SI	I	BUS INTERFACE DATA input.
46	SO	O	BUS INTERFACE DATA output.
47	VDD	—	Power supply pin.
48	AVDD	—	power supply pin. (For A/D conversion ports.)
49	VREF+	I	Reference voltage input pin.
50	—	—	Connected to GND.
51	—		
52	SRAM RST	I	Connected to GND.
53	MUTE SEL	I	Connected to GND.
54	MS1	I	Mode select input.
55	MS2	I	
56	AM S METER	I	S-METER voltage detection input. AM (MW : SW : LW)/FM
57	FM S METER	I	
58	VREF –	I	Connected to GND.
59	—	—	Connected to GND.
60	VSS	—	Connected to GND.
61	TU ON	O	Not used.
62	$\overline{DX}$/LO	O	Not used.
63	SEEK	O	SEEK OUT output.
64	AM ON	O	Not used.
65	FM ON	O	FM ON output.
66	TUNER MUTE	O	MUTE output.
67	AF SEEK	O	AF SEEK OUT output.
68	SRAM	O	External S-RAM control output. Not used.
69	A15	O	Not used.
70	ST IN MONO	I	Stereo input pin.
71	SD IN	I	SD input pin.
72	A14	O	Not used.
73	A13	O	
74	CE	O	S-RAM CE output. Not used.
75	A11	O	Not used.
76	A10		
77	A9		
78	A8		
79	A7		
80	A6		

5-3. MAIN SECTION PRINTED WIRING BOARDS

• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D1	D-14	IC381	D-4
D2	D-13	IC401	E-5
D5	C-14	IC402	E-5
D6	C-14	IC403	C-17
D11	E-15	IC461	H-1
D12	H-18	IC501	E-17
D301	I-21		
D302	F-5	Q1	B-3
D303	C-18	Q2	H-2
D304	B-14	Q3	J-5
D331	G-17	Q4	B-2
D351	E-16	Q5	B-3
D352	E-7	Q6	B-3
D353	I-9	Q11	D-8
D354	I-21	Q12	E-9
D355	B-21	Q13	D-9
D361	E-16	Q14	F-13
D362	H-18	Q51	F-4
D363	C-9	Q52	F-4
D371	B-14	Q101	F-3
D381	C-19	Q102	C-3
D382	C-19	Q103	C-2
D383	C-20	Q201	F-3
D384	B-19	Q202	C-2
D385	B-3	Q203	C-3
D404	C-18	Q331	H-7
D461	G-22	Q332	H-5
D462	G-22	Q351	I-7
D502	I-16	Q352	I-7
D503	I-15	Q355	D-4
D505	I-16	Q361	E-7
D506	I-14	Q362	I-19
D507	I-14	Q371	C-9
D508	I-15	Q372	C-9
D509	I-15	Q373	C-9
D510	I-16	Q374	D-20
D511	I-15	Q381	D-4
		Q382	B-20
IC11	E-8	Q401	E-7
IC12	F-9	Q402	G-7
IC101	G-8	Q404	H-7
IC102	E-2	Q431	E-4
IC103	D-2	Q461	F-1
IC104	D-3	Q462	F-1
IC301	H-3	Q485	H-1
IC331	G-6	Q503	I-8
IC332	F-8	Q504	I-8
IC351	I-1	Q505	I-7

Note:

- ○——: parts extracted from the component side.
- ●: Through hole.
- ○—+—○: Jumper wire connected to the ground pattern on the component side.
- ▒▒▒: Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

【MAIN BOARD】(COMPONENT SIDE)

【MAIN BOARD】(CONDUCTOR SIDE)

HP301 PLAYBACK HEAD

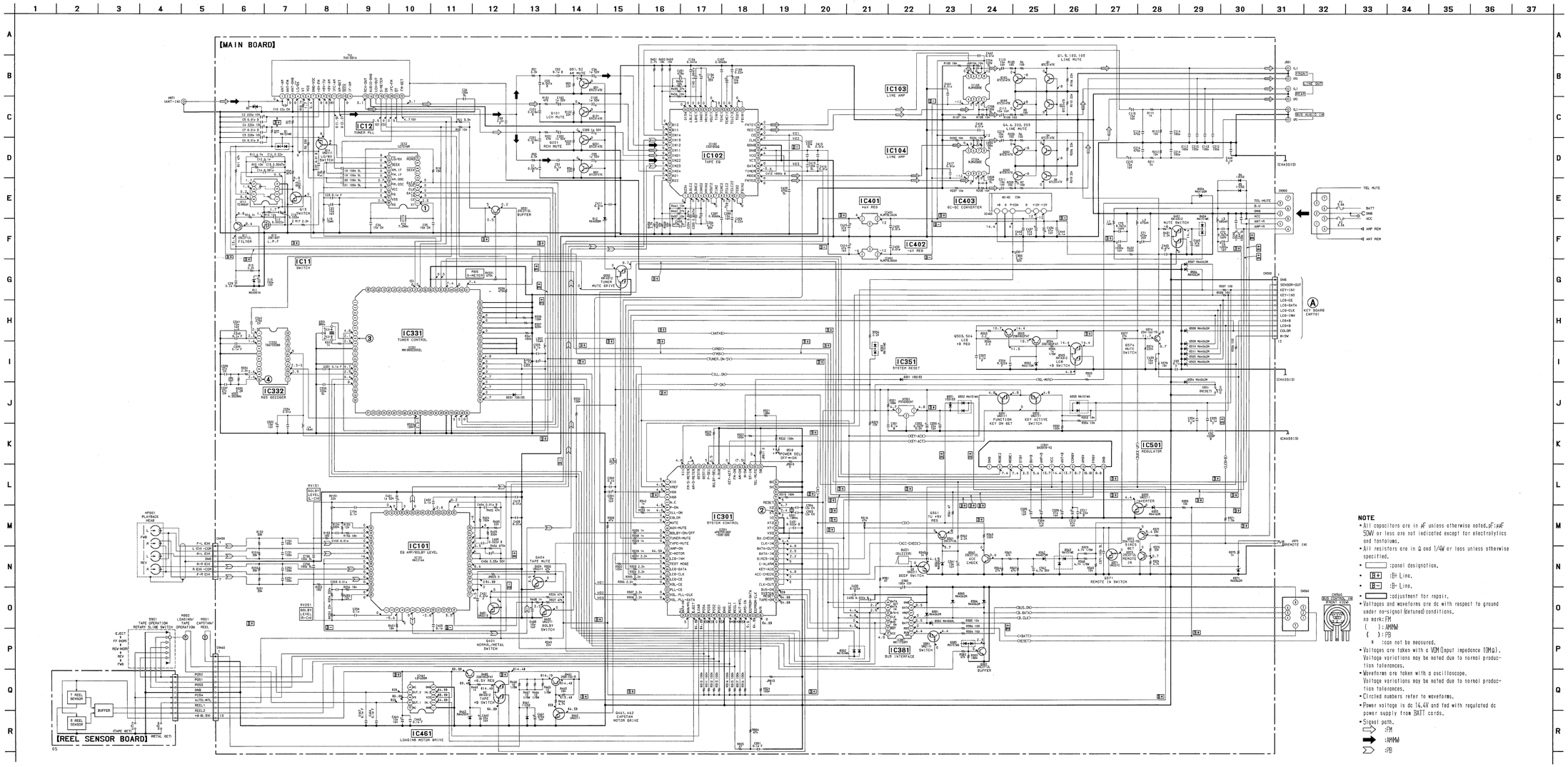
KEY BOARD CNP701

【REEL SENSOR BOARD】

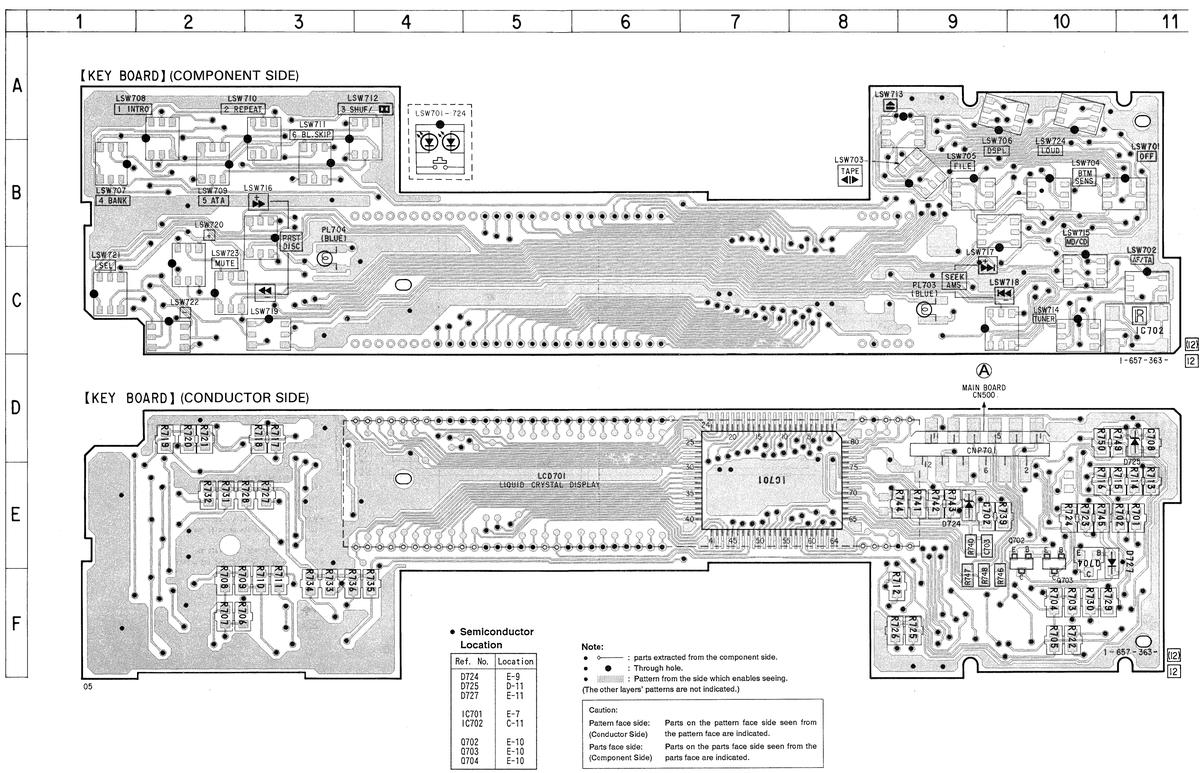
S901 TAPE OPERATION ROTARY SLIDE SWITCH

5-4. MAIN SECTION SCHEMATIC DAIGRAM

• See page 16 for IC Block Diagrams.



5-5. KEY SECTION PRINTED WIRING BOARD



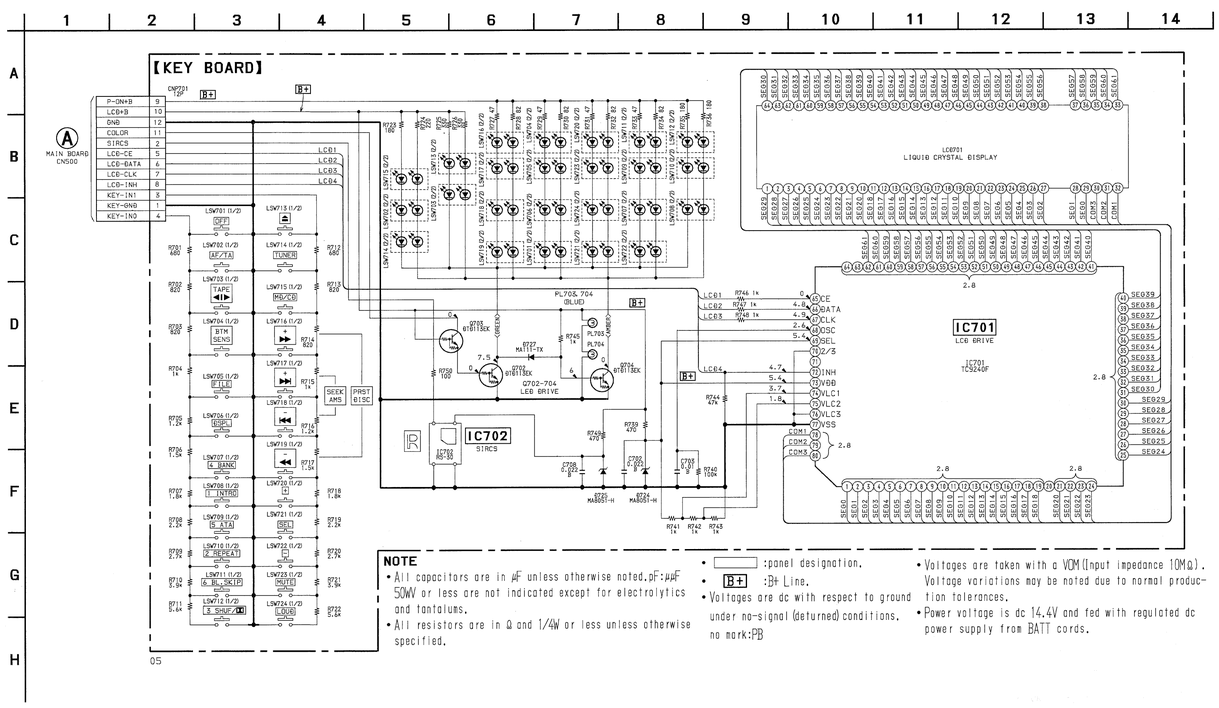
• Semiconductor Location

Ref. No.	Location
D724	E-9
D725	D-11
D727	E-11
IC701	E-7
IC702	C-11
Q702	E-10
Q703	E-10
Q704	E-10

Note:
• ○——○ : parts extracted from the component side.
• ● : Through hole.
• ▒ : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)

Caution:
Pattern face side: (Conductor Side) — Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side) — Parts on the parts face side seen from the parts face are indicated.

5-6. KEY SECTION SCHEMATIC DIAGRAM

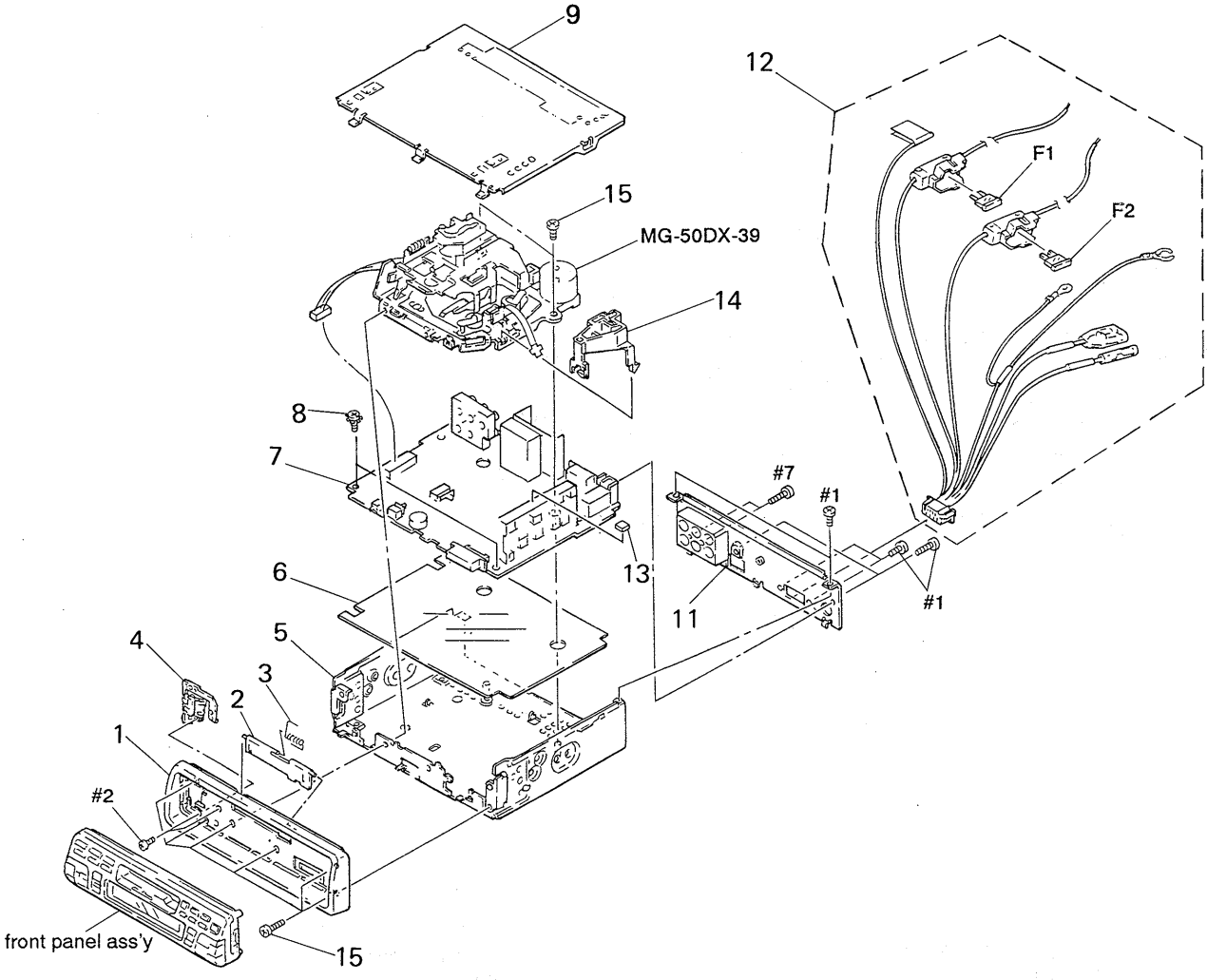


SECTION 6
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

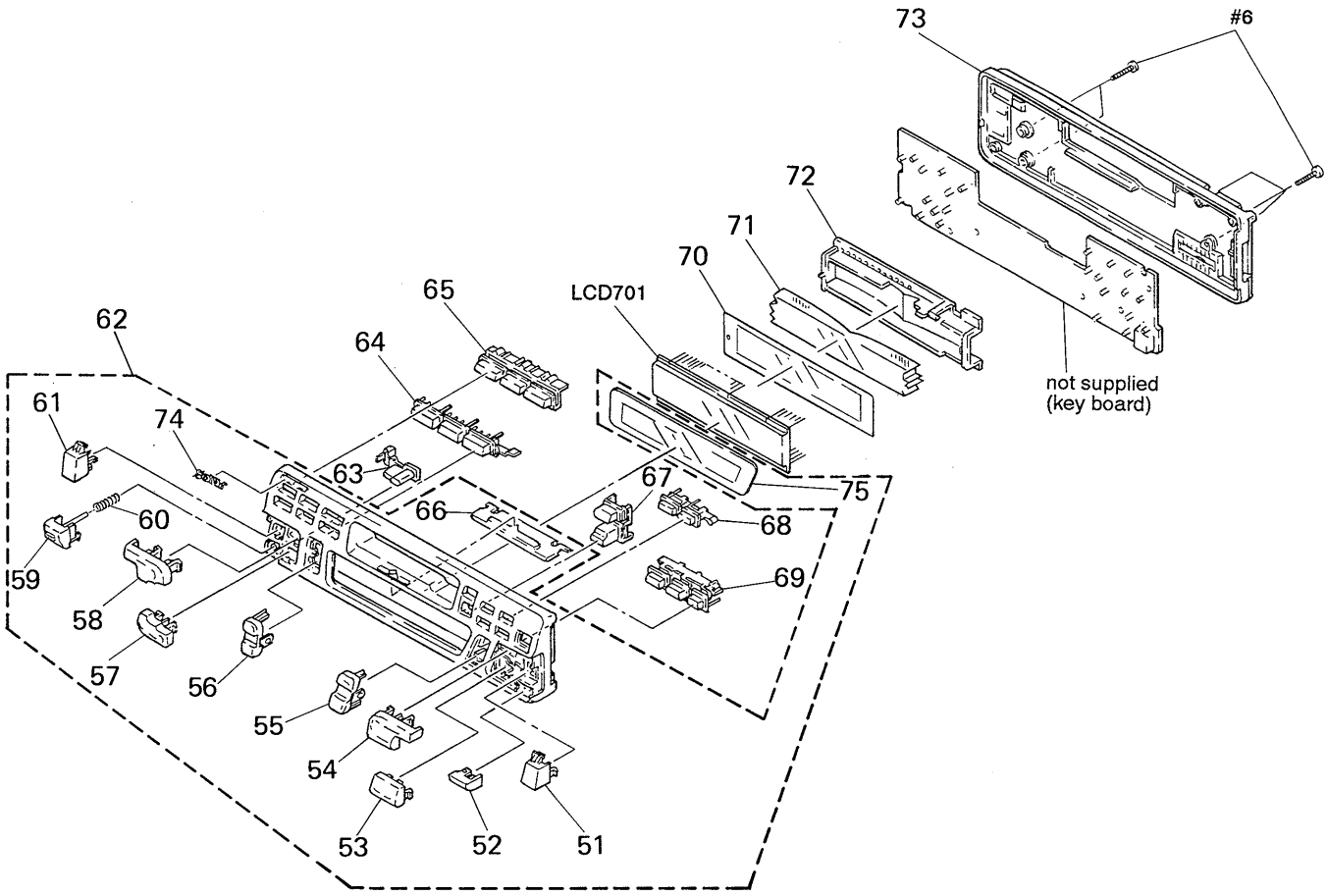
(1) GENERAL SECTION



Ref. No.	Part No.	Description	Remark
1	3-916-373-01	PANEL, SUB	
2	3-925-734-01	DOOR, CASSETTE	
3	3-913-076-01	SPRING (C DOOR), TORSION	
4	X-3367-636-1	LOCK ASSY	
* 5	X-3370-534-1	CHASSIS ASSY	
* 6	3-916-426-01	SHEET, INSULATING	
* 7	A-3298-866-A	MAIN BOARD, COMPLETE	
8	3-915-923-01	SCREW, GROUND POINT	

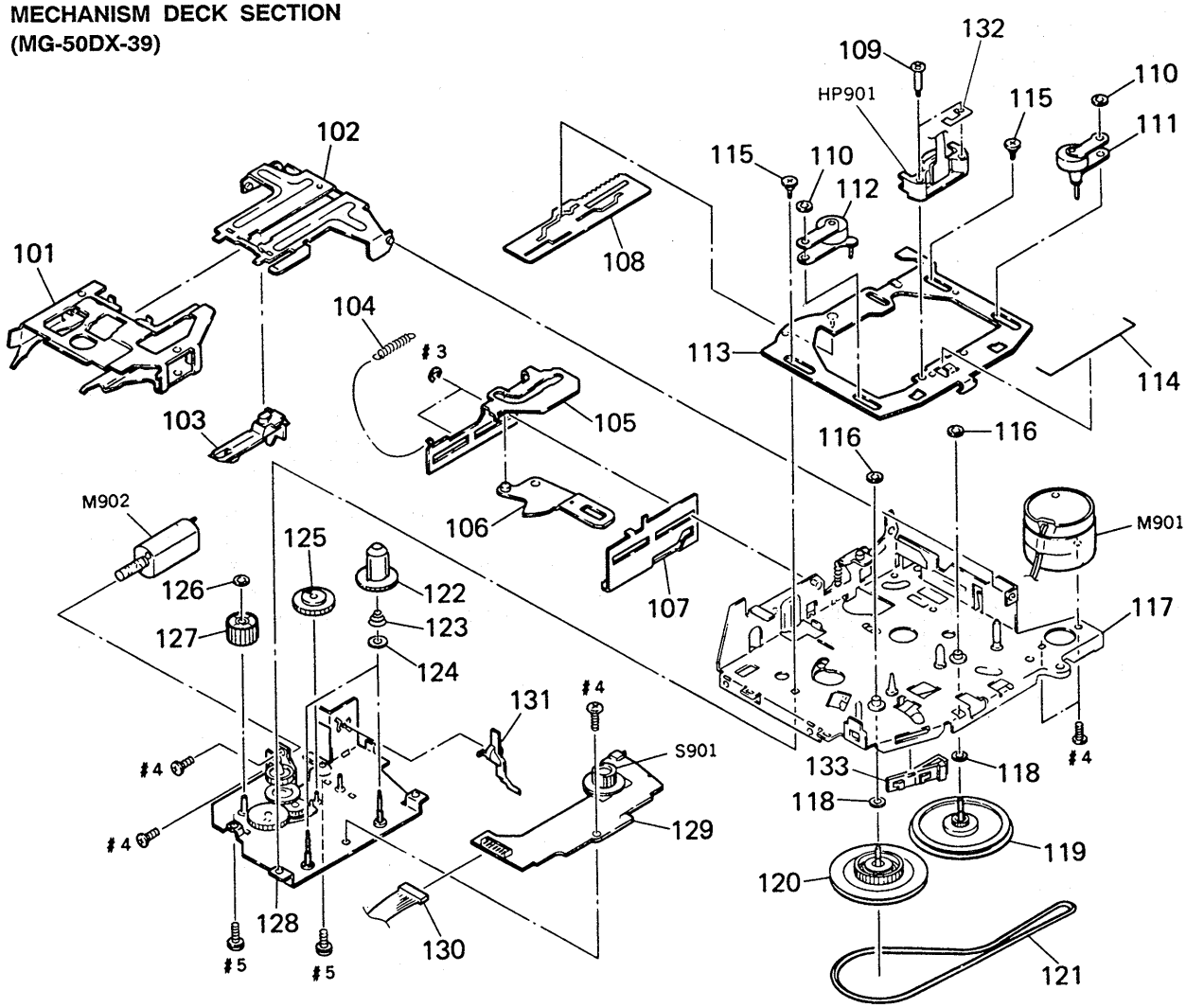
Ref. No.	Part No.	Description	Remark
* 9	X-3370-535-1	COVER ASSY	
* 11	X-3370-536-1	PANEL ASSY, BACK	
12	1-775-355-11	CORD (WITH CONNECTOR)	
13	9-911-840-XX	CUSHION (U)	
14	3-916-872-01	GUIDE	
15	3-920-112-01	SCREW (2.6X6), +PTT	
F1	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) 3A	
F2	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) 3A	

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-920-589-11	BUTTON (TV) (AF/TA)	
52	3-920-600-01	FILTER (RAY CATCHER)	
53	3-920-588-01	BUTTON (TUNER)	
54	3-920-587-01	BUTTON (MD/CD)	
55	3-920-598-01	BUTTON (S/A) (⏮ SEEK AMS +⏭)	
56	3-920-597-01	BUTTON (P/D) (⏮ PRST DISC +⏭)	
57	3-920-593-01	BUTTON (-)	
58	3-920-592-01	BUTTON (+)	
59	3-920-596-01	BUTTON (RELEASE)	
60	3-920-608-01	SPRING (RELEASE)	
61	3-920-594-01	BUTTON (SEL)	
* 62	X-3370-933-1	PANEL SUB ASSY, FRONT	
63	3-920-595-01	BUTTON (MUTE)	
64	3-925-212-01	BUTTON (4-6)	
65	3-925-211-01	BUTTON (1-3)	
66	3-920-607-01	PLATE (C), LIGHT GUIDE	
67	3-920-599-01	BUTTON (EJECT) (⏏, TAPE◀❙▶)	
68	3-925-213-02	BUTTON (D.L) (DISP, LOUD)	
69	3-925-214-01	BUTTON (F.S.O) (FILE, SENS, OFF)	
70	3-925-681-01	SHEET (REFLECTOR)	
* 71	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE	
* 72	3-913-756-01	HOLDER (LCD)	
73	3-920-582-21	PANEL, FRONT BACK	
74	3-904-194-01	EMBLEM (NO. 2.5), SONY	
75	3-925-210-01	PLATE, TRANSPARENT	
LCD701	1-810-571-21	DISPLAY PANEL, LIQUID CRYSTAL	

(3) MECHANISM DECK SECTION (MG-50DX-39)



Ref. No.	Part No.	Description	Remark
101	3-912-881-01	HOUSING, CASSETTE	
* 102	3-912-882-01	HANGER, HOUSING	
103	3-912-884-01	CATCHER	
104	3-912-885-01	SPRING (LOADING LEVER), TENSION	
* 105	3-912-892-01	LEVER (B), LOADING	
* 106	3-912-883-01	ARM, SUCTION	
* 107	3-922-941-01	LEVER (A2), LOADING	
108	X-3370-516-1	SERVICE ASSY, MODE LEVER	
109	3-912-893-01	SCREW, HEAD FITTING	
110	3-579-788-01	WASHER, STOPPER	
111	X-3368-266-1	PINCH LEVER (F) ASSY	
112	X-3368-267-1	PINCH LEVER (R) ASSY	
* 113	X-3368-268-1	BASE ASSY, HEAD	
114	3-912-879-01	SPRING, PINCH PRESS	
115	3-912-897-01	SCREW (HB), STEP	
116	3-364-151-01	WASHER	
117	X-3368-984-3	CHASSIS (SV) ASSY, REEL	
118	3-701-437-21	WASHER	

Ref. No.	Part No.	Description	Remark
119	3-913-825-01	FLYWHEEL (FZ)	
120	X-3369-124-1	CLUTCH (S) ASSY, FR	
121	3-912-896-01	BELT	
122	X-3368-843-2	GEAR (SV) ASSY, BREEL	
123	3-917-222-01	SPRING (B-T), COIL	
124	3-917-324-01	WASHER (B-T)	
125	3-912-888-03	GEAR (LOADING E)	
126	3-321-813-01	WASHER, COTTER POLYETHYLENE	
127	3-912-889-01	GEAR (LOADING F)	
128	X-3368-842-3	BRACKET (SV) ASSY, REEL	
129	1-589-604-21	REEL SENSOR BOARD	
130	1-765-460-12	CORD (WITH CONNECTOR)	
131	3-916-358-01	LEVER (TAPE IN 2)	
* 132	3-917-258-01	PLATE, GROUND	
133	3-919-553-01	GUIDE (BELT)	
HP901	1-500-200-11	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3368-684-1	MOTOR ASSY, MAIN (CAPSTAN/REEL)	
M902	X-3368-685-1	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)	
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

KEY

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
		KEY BOARD			
		*********			
	3-928-093-01	PLATE, GROUND			
		< CAPACITOR >			
C702	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V	
C703	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C708	1-163-037-11	CERAMIC CHIP	0.022uF	10% 25V	
		< CONNECTOR >			
CNP701	1-764-423-11	PIN, CONNECTOR 12P			
		< DIODE >			
D724	8-719-422-43	DIODE	MA8051-H		
D725	8-719-422-43	DIODE	MA8051-H		
D727	8-719-404-49	DIODE	MA111		
		< IC >			
IC701	8-759-246-16	IC	TC9240F		
IC702	8-749-925-07	IC	RS-30E-T		
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-810-571-21	DISPLAY PANEL, LIQUID CRYSTAL			
		< SWITCH >			
LSW701	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (OFF)			
LSW702	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (AF/TA)			
LSW703	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (TAPE ◀❚▶)			
LSW704	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (BTM/SENS)			
LSW705	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (FILE)			
LSW706	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (DSPL)			
LSW707	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (4 BANK)			
LSW708	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (1 INTRO)			
LSW709	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (5 ATA)			
LSW710	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (2 REPEAT)			
LSW711	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (6 BL.SKIP)			
LSW712	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (3 SHUF/□□)			
LSW713	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (⏏)			
LSW714	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (TUNER)			
LSW715	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (MD/CD)			
LSW716	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (PRST DISC +▶▶)			
LSW717	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (SEEK AMS +▶▶❙)			
LSW718	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (SEEK AMS ❙◀◀-)			
LSW719	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (PRST DISC ◀◀-)			
LSW720	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (+)			
LSW721	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (SEL)			
LSW722	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (-)			
LSW723	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (MUTE)			
LSW724	1-762-143-11	SWITCH, KEY BOARD (WITH LED) (LOUD)			
		< PILOT LAMP >			
PL703	1-517-280-11	LAMP, PILOT (BLUE)			
PL704	1-517-280-11	LAMP, PILOT (BLUE)			
		< TRANSISTOR >			
Q702	8-729-904-66	TRANSISTOR	DTD113EK		
Q703	8-729-904-66	TRANSISTOR	DTD113EK		
Q704	8-729-904-66	TRANSISTOR	DTD113EK		
		< RESISTOR >			
R701	1-216-045-00	METAL CHIP	680	5% 1/10W	
R702	1-216-047-00	METAL GLAZE	820	5% 1/10W	
R703	1-216-047-00	METAL GLAZE	820	5% 1/10W	
R704	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R705	1-216-051-00	METAL CHIP	1.2K	5% 1/10W	
R706	1-216-053-00	METAL CHIP	1.5K	5% 1/10W	
R707	1-216-055-00	METAL CHIP	1.8K	5% 1/10W	
R708	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R709	1-216-059-00	METAL CHIP	2.7K	5% 1/10W	
R710	1-216-063-00	METAL GLAZE	3.9K	5% 1/10W	
R711	1-216-067-00	METAL CHIP	5.6K	5% 1/10W	
R712	1-216-045-00	METAL CHIP	680	5% 1/10W	
R713	1-216-047-00	METAL GLAZE	820	5% 1/10W	

Ref. No.	Part No.	Description			Remark
R714	1-216-047-00	METAL GLAZE	820	5%	1/10W
R715	1-216-049-00	METAL CHIP	1K	5%	1/10W
R716	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R717	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R718	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R719	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R720	1-216-059-00	METAL CHIP	2.7K	5%	1/10W
R721	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R722	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R723	1-216-031-00	METAL CHIP	180	5%	1/10W
R724	1-216-033-00	METAL CHIP	220	5%	1/10W
R725	1-216-037-00	METAL CHIP	330	5%	1/10W
R726	1-216-037-00	METAL CHIP	330	5%	1/10W
R727	1-216-017-00	METAL GLAZE	47	5%	1/10W
R728	1-216-023-00	METAL CHIP	82	5%	1/10W
R729	1-216-017-00	METAL GLAZE	47	5%	1/10W
R730	1-216-023-00	METAL CHIP	82	5%	1/10W
R731	1-216-017-00	METAL GLAZE	47	5%	1/10W
R732	1-216-023-00	METAL CHIP	82	5%	1/10W
R733	1-216-017-00	METAL GLAZE	47	5%	1/10W
R734	1-216-023-00	METAL CHIP	82	5%	1/10W
R735	1-216-031-00	METAL CHIP	180	5%	1/10W
R736	1-216-031-00	METAL CHIP	180	5%	1/10W
R739	1-216-041-00	METAL CHIP	470	5%	1/10W
R740	1-216-097-00	METAL CHIP	100K	5%	1/10W
R741	1-216-049-00	METAL CHIP	1K	5%	1/10W
R742	1-216-049-00	METAL CHIP	1K	5%	1/10W
R743	1-216-049-00	METAL CHIP	1K	5%	1/10W
R744	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R745	1-216-049-00	METAL CHIP	1K	5%	1/10W
R746	1-216-049-00	METAL CHIP	1K	5%	1/10W
R747	1-216-049-00	METAL CHIP	1K	5%	1/10W
R748	1-216-049-00	METAL CHIP	1K	5%	1/10W
R749	1-216-041-00	METAL CHIP	470	5%	1/10W
R750	1-216-025-00	METAL CHIP	100	5%	1/10W

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* A-3298-866-A MAIN BOARD, COMPLETE

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3-925-917-01 PLATE, SHIELD

< JACK >

ANT1 1-764-808-11 JACK (ANT) (ANT-IN)

< BUZZER >

BUZZ1 1-504-468-21 SOUNDER, PIEZOELECTRIC

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C1	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C2	1-126-923-11	ELECT	220uF	20%	10V
C3	1-126-923-11	ELECT	220uF	20%	10V
C4	1-126-923-11	ELECT	220uF	20%	10V
C5	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C6	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C7	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C8	1-126-013-11	ELECT	1000uF	20%	16V
C9	1-126-013-11	ELECT	1000uF	20%	16V
C10	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C11	1-136-169-00	FILM	0.22uF	5%	50V
C12	1-136-165-00	FILM	0.1uF	5%	50V
C13	1-137-368-11	FILM	0.0047uF	5%	50V
C14	1-137-364-11	FILM	0.001uF	5%	50V
C14	1-137-370-11	FILM	0.01uF	5%	50V
C15	1-124-584-00	ELECT	100uF	20%	10V
C16	1-136-159-00	FILM	0.033uF	5%	50V
C17	1-137-366-11	FILM	0.0022uF	5%	50V
C18	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C19	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C20	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C21	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C22	1-126-157-11	ELECT	10uF	20%	16V
C23	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C24	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C25	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C26	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C27	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C29	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C51	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C52	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C53	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C54	1-126-301-11	ELECT	1uF	20%	50V
C55	1-126-301-11	ELECT	1uF	20%	50V
C71	1-126-941-11	ELECT	470uF	20%	25V
C72	1-136-961-11	FILM	0.047uF	10%	160V
C73	1-136-961-11	FILM	0.047uF	10%	160V
C92	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C93	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C99	1-164-505-11	CERAMIC CHIP	2.2uF		16V
C101	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C102	1-126-301-11	ELECT	1uF	20%	50V
C103	1-126-301-11	ELECT	1uF	20%	50V
C104	1-136-161-00	FILM	0.047uF	5%	50V
C105	1-137-368-11	FILM	0.0047uF	5%	50V
C106	1-126-294-11	ELECT	4.7uF	20%	35V
C107	1-130-481-00	MYLAR	0.0068uF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C108	1-104-951-11	ELECT	10uF	20%	16V
C109	1-136-169-00	FILM	0.22uF	5%	50V
C110	1-126-157-11	ELECT	10uF	20%	16V
C111	1-126-157-11	ELECT	10uF	20%	16V
C112	1-104-527-11	FILM CHIP	100PF	5%	50V
C113	1-104-527-11	FILM CHIP	100PF	5%	50V
C114	1-104-527-11	FILM CHIP	100PF	5%	50V
C115	1-126-157-11	ELECT	10uF	20%	16V
C116	1-104-535-11	FILM CHIP	470PF	5%	50V
C151	1-137-358-11	FILM	0.0001uF	5%	50V
C152	1-137-358-11	FILM	0.0001uF	5%	50V
C153	1-137-370-11	FILM	0.01uF	5%	50V
C154	1-136-165-00	FILM	0.1uF	5%	50V
C158	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C201	1-163-024-00	CERAMIC CHIP	0.018uF	10%	50V
C202	1-126-301-11	ELECT	1uF	20%	50V
C203	1-126-301-11	ELECT	1uF	20%	50V
C204	1-136-161-00	FILM	0.047uF	5%	50V
C205	1-137-368-11	FILM	0.0047uF	5%	50V
C206	1-126-294-11	ELECT	4.7uF	20%	35V
C207	1-130-481-00	MYLAR	0.0068uF	5%	50V
C208	1-104-951-11	ELECT	10uF	20%	16V
C209	1-136-169-00	FILM	0.22uF	5%	50V
C210	1-126-157-11	ELECT	10uF	20%	16V
C211	1-126-157-11	ELECT	10uF	20%	16V
C212	1-104-527-11	FILM CHIP	100PF	5%	50V
C213	1-104-527-11	FILM CHIP	100PF	5%	50V
C214	1-104-527-11	FILM CHIP	100PF	5%	50V
C215	1-126-157-11	ELECT	10uF	20%	16V
C216	1-104-535-11	FILM CHIP	470PF	5%	50V
C251	1-137-358-11	FILM	0.0001uF	5%	50V
C252	1-137-358-11	FILM	0.0001uF	5%	50V
C253	1-137-370-11	FILM	0.01uF	5%	50V
C254	1-136-165-00	FILM	0.1uF	5%	50V
C258	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C301	1-126-157-11	ELECT	10uF	20%	16V
C302	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C303	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C304	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C331	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C332	1-126-163-11	ELECT	4.7uF	20%	50V
C333	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C334	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C335	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C337	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C338	1-162-920-11	CERAMIC CHIP	27PF	5%	50V
C339	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C340	1-163-038-11	CERAMIC CHIP	0.1uF		25V

Ref. No.	Part No.	Description			Remark
C341	1-126-157-11	ELECT	10uF	20%	16V
C342	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C350	1-124-257-00	ELECT	2.2uF	20%	50V
C351	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C352	1-125-701-11	CAP, DOUBLE LAYER			0.047F
C353	1-124-234-00	ELECT	22uF	20%	16V
C354	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C355	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C361	1-126-157-11	ELECT	10uF	20%	16V
C362	1-126-163-11	ELECT	4.7uF	20%	50V
C371	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C382	1-124-584-00	ELECT	100uF	20%	10V
C401	1-126-301-11	ELECT	1uF	20%	50V
C402	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C403	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C404	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C405	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C406	1-124-252-00	ELECT	0.33uF	20%	50V
C408	1-126-157-11	ELECT	10uF	20%	16V
C409	1-137-370-11	FILM	0.01uF	5%	50V
C410	1-137-370-11	FILM	0.01uF	5%	50V
C411	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C412	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C413	1-137-370-11	FILM	0.01uF	5%	50V
C414	1-104-953-11	ELECT	47uF	20%	16V
C415	1-104-953-11	ELECT	47uF	20%	16V
C416	1-137-370-11	FILM	0.01uF	5%	50V
C417	1-137-370-11	FILM	0.01uF	5%	50V
C418	1-137-370-11	FILM	0.01uF	5%	50V
C419	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C420	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C421	1-162-637-11	CERAMIC CHIP	0.47uF		16V
C422	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C430	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C431	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C432	1-137-294-11	FILM CHIP	0.01uF	5%	16V
C433	1-137-294-11	FILM CHIP	0.01uF	5%	16V
C435	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C436	1-104-953-11	ELECT	47uF	20%	16V
C437	1-104-953-11	ELECT	47uF	20%	16V
C439	1-126-157-11	ELECT	10uF	20%	16V
C440	1-124-589-11	ELECT	47uF	20%	16V
C441	1-137-370-11	FILM	0.01uF	5%	50V
C442	1-137-370-11	FILM	0.01uF	5%	50V
C443	1-162-806-11	CERAMIC	0.1uF	10%	50V
C444	1-162-806-11	CERAMIC	0.1uF	10%	50V
C445	1-162-637-11	CERAMIC CHIP	0.47uF		16V
C446	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C447	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

Ref. No.	Part No.	Description			Remark
C448	1-163-077-00	CERAMIC CHIP	0.1uF		50V
C451	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C458	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C461	1-126-935-11	ELECT	470uF	20%	16V
C462	1-124-234-00	ELECT	22uF	20%	16V
C463	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C464	1-126-157-11	ELECT	10uF	20%	16V
C466	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C467	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C503	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C504	1-163-033-00	CERAMIC CHIP	0.022uF		50V
C505	1-126-157-11	ELECT	10uF	20%	16V
C506	1-124-589-11	ELECT	47uF	20%	16V
C508	1-124-589-11	ELECT	47uF	20%	16V
C511	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C512	1-124-589-11	ELECT	47uF	20%	16V
C704	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C708	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C801	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C802	1-126-157-11	ELECT	10uF	20%	16V
C804	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C808	1-163-117-00	CERAMIC CHIP	100PF	5%	50V

< CONNECTOR >

CN360	1-580-907-31	PLUG, CONNECTOR (BUS CONTROL IN)
CN450	1-766-260-11	CONNECTOR, FFC/FPC (ZIF) 7P
* CN460	1-506-995-11	PIN, CONNECTOR (PC BOARD) 13P
CN500	1-764-422-11	PLUG, CONNECTOR 12P
CN900	1-691-280-11	CONNECTOR

< DIODE >

D1	8-719-801-78	DIODE	1SS184
D2	1-519-504-11	DIODE	GAP, DISCHARGE
D5	8-719-200-82	DIODE	11ES2
D6	8-719-200-82	DIODE	11ES2
D11	8-719-034-63	DIODE	MA4091-H(QZ)
D12	8-719-034-22	DIODE	MA4039-M(QZ)
D301	8-719-050-86	DIODE	1SS133T-91S
D302	8-719-104-34	DIODE	1S2836
D303	8-719-801-78	DIODE	1SS184
D304	8-719-034-90	DIODE	MA4160-M(QZ)
D331	8-719-050-86	DIODE	1SS133T-91S
D351	8-719-050-86	DIODE	1SS133T-91S
D352	8-719-104-34	DIODE	1S2836
D353	8-719-104-34	DIODE	1S2836
D354	8-719-034-46	DIODE	MA4062-M(QZ)
D355	8-719-034-90	DIODE	MA4160-M(QZ)
D361	8-719-034-42	DIODE	MA4056-M(QZ)
D362	8-719-034-54	DIODE	MA4075-M(QZ)
D363	8-719-801-78	DIODE	1SS184
D371	8-719-034-46	DIODE	MA4062-M(QZ)
D381	8-719-034-46	DIODE	MA4062-M(QZ)
D382	8-719-034-49	DIODE	MA4068-L(QZ)
D383	8-719-034-46	DIODE	MA4062-M(QZ)
D384	8-719-034-46	DIODE	MA4062-M(QZ)
D385	8-719-104-34	DIODE	1S2836
D404	8-719-801-78	DIODE	1SS184
D461	8-719-200-82	DIODE	11ES2
D462	8-719-034-63	DIODE	MA4091-H(QZ)
D502	8-719-034-70	DIODE	MA4110-M(QZ)
D503	8-719-034-46	DIODE	MA4062-M(QZ)
D505	8-719-034-46	DIODE	MA4062-M(QZ)
D506	8-719-034-46	DIODE	MA4062-M(QZ)
D507	8-719-034-46	DIODE	MA4062-M(QZ)
D508	8-719-034-46	DIODE	MA4062-M(QZ)
D509	8-719-034-46	DIODE	MA4062-M(QZ)
D510	8-719-034-46	DIODE	MA4062-M(QZ)
D511	8-719-034-46	DIODE	MA4062-M(QZ)

< IC >

IC11	8-759-242-66	IC	TC4W66F
IC12	8-759-823-81	IC	LC7216M
IC101	8-759-161-01	IC	HA12164
IC102	8-752-071-19	IC	CXA1946Q
IC103	8-759-711-82	IC	NJM4580E
IC104	8-759-711-82	IC	NJM4580E
IC301	8-759-357-33	IC	uPD75518GF-308-3B9
IC331	8-759-351-21	IC	MN1883220SZJ
IC332	8-759-163-63	IC	TDA7330BD-013TR
IC351	8-759-167-83	IC	PST600EMT-T1
IC381	8-759-096-16	IC	MM1175XFF
IC401	8-759-346-20	IC	NJM78L06UA-TE1
IC402	8-759-346-19	IC	NJM79L06UA-TE1
IC403	1-473-225-11	IC	CONVERTER UNIT, DC-DC
IC461	8-759-823-87	IC	LB1638M
IC501	8-759-347-49	IC	BA3918-V2

< JACK >

J301	1-764-804-11	JACK, PIN 6P (LINE OUT(FRONT/REAR)/BUS AUDIO IN)
J370	1-566-822-41	JACK (REMOTE IN)

< JUMPER RESISTOR >

JR401	1-216-296-00	CONDUCTOR, CHIP
JR402	1-216-296-00	CONDUCTOR, CHIP
JR403	1-216-296-00	CONDUCTOR, CHIP

MAIN

Ref. No.	Part No.	Description			Remark
JR404	1-216-296-00	CONDUCTOR, CHIP			
JR810	1-216-295-00	METAL CHIP	0	5%	1/10W
JR811	1-216-295-00	METAL CHIP	0	5%	1/10W
JR813	1-216-295-00	METAL CHIP	0	5%	1/10W
JR818	1-216-295-00	METAL CHIP	0	5%	1/10W
JR821	1-216-295-00	METAL CHIP	0	5%	1/10W
JR822	1-216-295-00	METAL CHIP	0	5%	1/10W
JR825	1-216-295-00	METAL CHIP	0	5%	1/10W
		< COIL >			
L1	1-411-402-11	COIL, CHOKE	1000uH		
L2	1-411-403-11	COIL, CHOKE	470uH		
L3	1-411-404-11	COIL, CHOKE	680uH		
L4	1-410-509-61	INDUCTOR	10uH		
L10	1-410-509-61	INDUCTOR	10uH		
L301	1-410-509-61	INDUCTOR	10uH		
L302	1-410-509-61	INDUCTOR	10uH		
		< TRANSISTOR >			
Q1	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q2	8-729-020-67	TRANSISTOR	XN1A312-TX		
Q3	8-729-421-22	TRANSISTOR	UN2211		
Q4	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q5	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q6	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q11	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q12	8-729-021-94	TRANSISTOR	2SK1657-T1B		
Q13	8-729-421-22	TRANSISTOR	UN2211		
Q14	8-729-424-08	TRANSISTOR	UN2111		
Q51	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q52	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q101	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q102	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q103	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q201	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q202	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q203	8-729-920-21	TRANSISTOR	DTC314TKH04		
Q331	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q332	8-729-020-67	TRANSISTOR	XN1A312-TX		
Q351	8-729-424-08	TRANSISTOR	UN2111		
Q352	8-729-424-08	TRANSISTOR	UN2111		
Q355	8-729-421-22	TRANSISTOR	UN2211		
Q361	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q362	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q371	8-729-424-59	TRANSISTOR	UN2212		
Q372	8-729-216-22	TRANSISTOR	2SA1162-G		
Q373	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q374	8-729-216-22	TRANSISTOR	2SA1162-G		

Ref. No.	Part No.	Description			Remark
Q381	8-729-424-08	TRANSISTOR	UN2111		
Q382	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q401	8-729-421-19	TRANSISTOR	UN2213		
Q402	8-729-421-22	TRANSISTOR	UN2211		
Q404	8-729-421-22	TRANSISTOR	UN2211		
Q431	8-729-020-67	TRANSISTOR	XN1A312-TX		
Q461	8-729-106-60	TRANSISTOR	2SB1115A		
Q462	8-729-421-22	TRANSISTOR	UN2211		
Q485	8-729-807-12	TRANSISTOR	2SD1802-S		
Q503	8-729-807-12	TRANSISTOR	2SD1802-S		
Q504	8-729-807-12	TRANSISTOR	2SD1802-S		
Q505	8-729-020-67	TRANSISTOR	XN1A312-TX		
		< RESISTOR >			
R1	1-216-001-00	METAL CHIP	10	5%	1/10W
R2	1-216-001-00	METAL CHIP	10	5%	1/10W
R4	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R5	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R6	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R7	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R9	1-216-037-00	METAL CHIP	330	5%	1/10W
R10	1-216-049-00	METAL CHIP	1K	5%	1/10W
R11	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R12	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R13	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R14	1-216-049-00	METAL CHIP	1K	5%	1/10W
R15	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R16	1-216-075-00	METAL CHIP	12K	5%	1/10W
R17	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R18	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R19	1-216-077-00	METAL CHIP	15K	5%	1/10W
R20	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R21	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R23	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R51	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R53	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R55	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R56	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R101	1-208-774-11	METAL GLAZE	470	2%	1/10W
R102	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R103	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R104	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R105	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R106	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R107	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R108	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R109	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R110	1-208-814-11	METAL GLAZE	22K	2%	1/10W

Ref. No.	Part No.	Description			Remark
R111	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R112	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R151	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R152	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R153	1-208-764-11	METAL GLAZE	180	2%	1/10W
R154	1-218-764-11	METAL GLAZE	330K	2%	1/10W
R155	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R156	1-208-812-11	METAL GLAZE	18K	2%	1/10W
R201	1-208-774-11	METAL GLAZE	470	2%	1/10W
R202	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R203	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R204	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R205	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R206	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R207	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R208	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R209	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R210	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R211	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R212	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R251	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R252	1-216-689-11	METAL CHIP	39K	0.5%	1/10W
R253	1-208-764-11	METAL GLAZE	180	2%	1/10W
R254	1-218-764-11	METAL GLAZE	330K	2%	1/10W
R255	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R256	1-208-812-11	METAL GLAZE	18K	2%	1/10W
R301	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R302	1-216-097-00	METAL CHIP	100K	5%	1/10W
R303	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R304	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R305	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R306	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R307	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R308	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R309	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R310	1-216-097-00	METAL CHIP	100K	5%	1/10W
R311	1-216-097-00	METAL CHIP	100K	5%	1/10W
R312	1-216-097-00	METAL CHIP	100K	5%	1/10W
R313	1-216-097-00	METAL CHIP	100K	5%	1/10W
R314	1-216-097-00	METAL CHIP	100K	5%	1/10W
R315	1-216-097-00	METAL CHIP	100K	5%	1/10W
R316	1-216-097-00	METAL CHIP	100K	5%	1/10W
R317	1-216-097-00	METAL CHIP	100K	5%	1/10W
R318	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R319	1-216-097-00	METAL CHIP	100K	5%	1/10W
R320	1-216-097-00	METAL CHIP	100K	5%	1/10W
R321	1-216-097-00	METAL CHIP	100K	5%	1/10W
R322	1-216-097-00	METAL CHIP	100K	5%	1/10W
R323	1-216-097-00	METAL CHIP	100K	5%	1/10W
R324	1-216-097-00	METAL CHIP	100K	5%	1/10W
R325	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R326	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R327	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R328	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R329	1-216-049-00	METAL CHIP	1K	5%	1/10W
R330	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R331	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R332	1-216-097-00	METAL CHIP	100K	5%	1/10W
R333	1-216-049-00	METAL CHIP	1K	5%	1/10W
R334	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R335	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R336	1-216-113-00	METAL CHIP	470K	5%	1/10W
R337	1-216-119-00	METAL CHIP	820K	5%	1/10W
R338	1-216-097-00	METAL CHIP	100K	5%	1/10W
R339	1-216-097-00	METAL CHIP	100K	5%	1/10W
R341	1-216-097-00	METAL CHIP	100K	5%	1/10W
R342	1-216-049-00	METAL CHIP	1K	5%	1/10W
R343	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R348	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R349	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R350	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R351	1-216-097-00	METAL CHIP	100K	5%	1/10W
R352	1-216-097-00	METAL CHIP	100K	5%	1/10W
R353	1-216-073-00	METAL CHIP	10K	5%	1/10W
R354	1-216-073-00	METAL CHIP	10K	5%	1/10W
R355	1-216-073-00	METAL CHIP	10K	5%	1/10W
R356	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R361	1-216-017-00	METAL GLAZE	47	5%	1/10W
R362	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R363	1-216-097-00	METAL CHIP	100K	5%	1/10W
R364	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R365	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R367	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R368	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R369	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R370	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R371	1-216-053-00	METAL CHIP	1.5K	5%	1/10W
R372	1-216-085-00	METAL CHIP	33K	5%	1/10W
R373	1-216-085-00	METAL CHIP	33K	5%	1/10W
R374	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R375	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R376	1-216-105-00	METAL CHIP	220K	5%	1/10W
R377	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R378	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R381	1-216-017-00	METAL GLAZE	47	5%	1/10W
R382	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R383	1-216-097-00	METAL CHIP	100K	5%	1/10W

MAIN

Ref. No.	Part No.	Description			Remark
R384	1-216-025-00	METAL CHIP	100	5%	1/10W
R385	1-216-073-00	METAL CHIP	10K	5%	1/10W
R386	1-216-025-00	METAL CHIP	100	5%	1/10W
R401	1-208-812-11	METAL GLAZE	18K	2%	1/10W
R402	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R403	1-208-814-11	METAL GLAZE	22K	2%	1/10W
R404	1-218-756-11	METAL GLAZE	150K	2%	1/10W
R405	1-218-764-11	METAL GLAZE	330K	2%	1/10W
R406	1-216-113-00	METAL CHIP	470K	5%	1/10W
R408	1-216-049-00	METAL CHIP	1K	5%	1/10W
R431	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R432	1-216-101-00	METAL CHIP	150K	5%	1/10W
R451	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R452	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R453	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R454	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R455	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R456	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R457	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R458	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R459	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R460	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R461	1-208-806-11	METAL GLAZE	10K	2%	1/10W
R462	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R463	1-216-073-00	METAL CHIP	10K	5%	1/10W
R464	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R465	1-216-150-00	METAL GLAZE	10	5%	1/8W
R466	1-216-150-00	METAL GLAZE	10	5%	1/8W
R467	1-216-150-00	METAL GLAZE	10	5%	1/8W
R468	1-216-150-00	METAL GLAZE	10	5%	1/8W
R469	1-216-049-00	METAL CHIP	1K	5%	1/10W
R503	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R504	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R505	1-216-198-00	METAL GLAZE	1K	5%	1/8W
R506	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R507	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R508	1-216-627-11	METAL CHIP	100	0.5%	1/10W
R804	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R805	1-216-017-00	METAL GLAZE	47	5%	1/10W
R920	1-216-651-11	METAL CHIP	1K	0.5%	1/10W

< VARIABLE RESISTOR >

RV151	1-238-857-11	RES, ADJ, CERMET 22K
RV251	1-238-857-11	RES, ADJ, CERMET 22K
RV331	1-238-605-31	RES, ADJ, CARBON 470K

< SWITCH >

S351	1-692-431-21	SWITCH, TACTILE (RESET)
S510	1-571-478-11	SWITCH, SLIDE (POWER SEL)

Ref. No.	Part No.	Description	Remark

< TUNER UNIT >

TU1	A-3282-003-A	TUNER UNIT (TUX-001A)

< VIBRATOR >

X10	1-567-848-11	VIBRATOR, CRYSTAL (7.2 MHz)
X301	1-567-821-11	VIBRATOR, CRYSTAL (4.19 MHz)
X331	1-579-952-21	VIBRATOR, CERAMIC (8 MHz)
X332	1-579-242-11	VIBRATOR, CRYSTAL (4.332 MHz)

****

MISCELLANEOUS

****

12	1-775-355-11	CORD (WITH CONNECTOR)
130	1-765-460-12	CORD (WITH CONNECTOR)
F1	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) 3A
F2	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) 3A
HP901	1-500-200-11	HEAD, MAGNETIC (PLAYBACK)
M901	X-3368-684-1	MOTOR ASSY, MAIN (CAPSTAN/REEL)
M902	X-3368-685-1	MOTOR ASSY, SUB (LOADING/TAPE OPERATION)
S901	1-692-885-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)

****

ACCESSORIES & PACKING MATERIALS

****

3-800-282-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN)
3-800-282-41	MANUAL, INSTRUCTION (SPANISH, DUTCH, SWEDISH, PORUTUGUESE) (AEP, UK)
3-800-319-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, ITALIAN)
3-800-319-41	MANUAL, INSTRUCTION (SPANISH, DUTCH, SWEDISH, PORUTUGUESE) (AEP, UK)
X-3369-665-1	CASE ASSY

****

****

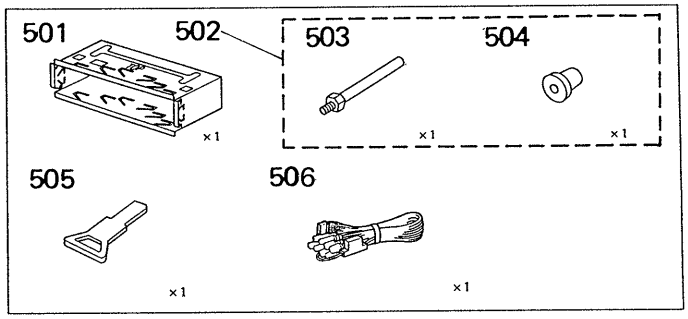
HARDWARE LIST

****

#1	7-621-770-67	SCREW +PTT 2.6X6 (S)
#2	7-621-772-10	SCREW +B 2X4
#3	7-624-104-04	STOP RING 2.0, TYPE-E
#4	7-627-553-17	PRECISION SCREW +P 2X2 TYPE 3
#5	7-628-253-00	SCREW +PS 2X4
#6	7-685-106-19	SCREW +P 2X10 TYPE2 NON-SLIT
#7	7-621-773-87	SCREW +PTT 2.6X10 (S)

****

Ref. No.	Part No.	Description	Remark
		MOUNTING HARDWARE	
		**********	
* 501	3-916-161-01	FRAME, FITTING	
502	X-3366-405-1	SCREW ASSY (EXP), FITTING	
503	3-386-828-01	SCREW, FITTING	
504	3-349-410-01	BUSHING	
505	3-388-078-01	KEY	
506	1-775-355-11	CORD (WITH CONNECTOR)	



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